NOTICE OF DETERMINATION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Anantaramam Peddada
5796 Corporate Avenue
Cypress, California 90630

Filing of Notice of Determination in Compliance with Public Resources Code, Division 13, Section 21108 or 21152.

Proposed Plan/ Remedial Action Plan Operable Unit 1B Installation Restoration Program (IRP) 3 and 12
Project Title

2002041052	Anantaramam Peddada	(714) 484 / 5418
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone/Extension

Project Location (*Include County*):
Red Hill Avenue and Edinger Avenue, Orange County, Tustin, California, 92710. The geographic coordinates of former MCAS Tustin are 33 degrees 42 minutes 34 seconds North latitude and 117 degrees 49 minutes 30 seconds West longitude.

Former MCAS Tustin is located within the cities of Tustin, and Irvine in Orange County, California, approximately one-half mile east of the Costa Mesa Freeway (State Route 55), between the San Diego (Interstate 405) and Santa Ana (Interstate 5) Freeways. The site is currently zoned by the City of Tustin as "MCAS Tustin Specific Plan."

Project Description:

The Navy proposes to remediate soil and groundwater contaminated by hazardous substances at Operable Unit (OU) 1B, Sites 3 and 12, which are located on the former Marine Corps Air Station (MCAS) Tustin. The original preferred remedy, described in a Proposed Plan dated April 2002; includes excavation of the contaminated soil, and on-site thermal treatment and reuse of the soil. After the Proposed Plan was presented to the public, additional information was obtained that indicated on-site thermal treatment and reuse of soil is no longer a viable option for soil disposal. This option was determined to be infeasible based on factors related to permitting of an on-site thermal treatment unit, utility connections, and additional treatment requirements. The Navy now proposes to excavate the contaminated soil and dispose of it at an off-site hazardous waste facility

The proposed project consists of remedial actions recommended in the Navy's revised Proposed Plan (PP)/Draft Remedial Action Plan (RAP) and Fact Sheet dated February 2004, to address releases of hazardous substances to soil and groundwater at OU-1B, Site 3 and Site 12 at former MCAS Tustin. The PP/Draft RAP satisfies the requirements for remedying hazardous substance release sites pursuant to section 25356.1 of the California Health and Safety Code, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the Code of Federal Regulations, Sections 300.400 et seq.

The preferred remedial action consists of excavating soil contaminated by volatile organic compound (VOC) from a hot spot area, disposing this soil at a permitted facility, and extracting and treating VOC-contaminated groundwater from a hot spot area and containment wells. Hot spot areas are classified as soil and groundwater contamination areas that are characterized by the highest concentrations of VOC chemicals. The remediation of soil and groundwater hot spots will expedite the cleanup of groundwater.

OU-1B consists of a paint stripper disposal area known as IRP-3 that occupies approximately 1.4 acres. The site includes seven buildings, several of which were used for chemical storage, painting, and paint stripping operations from 1967 to 1999 when military activities were discontinued. Solvents, paint strippers, battery acids, and water used for washing inactive oil/water separators were reportedly poured directly onto the ground outside some of the buildings.

A drum storage area known as IRP-12 occupies a total area of about 3.5 acres. The site was used by the Marine Corps

primarily for materials storage and warehouse functions from the mid-1960s to 1975. Solvents, motor oil, and hydraulic fluids were stored in this area. A blimp and vehicle washing area and a hazardous waste storage area are also associated with IRP-12. These areas are located above one of the VOC plumes in groundwater associated with IRP-12. VOCs are the contaminants of concern at both IRP-3 and IRP-12. Heavy metals were also found at the site at concentrations at or near expected background values that do not require remediation

For containment of contaminated groundwater, extraction wells will be placed along the leading edge of each plume in the first and second water bearing zones (WBZs). Extraction of groundwater from these containment wells will create a hydraulic barrier to restrict further migration of VOCs within the shallow aquifer. For the hot spot, groundwater will be extracted from the well installed in the hot spot of VOC contamination located within the plume. The hot spot well will supplement the containment wells.

Extracted groundwater from both containment and hotspot wells will be treated using a granular activated carbon system to remove VOCs. After treatment, the clean water would be discharged to a storm drain that eventually flows to Peters Canyon Channel. The discharge of treated groundwater to Peters Canyon Channel will comply with the substantive provisions of the National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB), Santa Ana Region.

It is anticipated that project construction activities will take approximately 6 months to complete. They will start June 2005 and end in November 2005. The soil excavation will commence in February 2005 and last for one month. During the project construction activities, daily hours of operation will generally follow normal the business hours of 8 am to 5 pm. Once in place, the groundwater hot spot extraction well will be operated for approximately 10 years. The groundwater hydraulic containment wells and treatment systems will be operated for 30 years or until contaminant concentrations are reduced to applicable VOC cleanup goals.

To prevent the use of contaminated groundwater before remediation goals are met, there will be institutional controls, such as property deed restrictions, to restrict future use of contaminated groundwater, and limit human exposure. In addition, the deed restrictions will protect wells and other equipment installed at the former MCAS Tustin from tampering.

Specifically, the preferred remedial action consists of the following activities.

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

Findings of Significant Effect on Environment:

DTSC has prepared a Revised Initial Study pursuant to the requirements of the California Environmental Quality Act (CEQA, Section 21000 et seq., California Public Resources Code) and implementing Guideline (Section 15000 et seq., Title 14, California Code of Regulations). Based upon this analysis, DTSC has determined that the proposed project will not have a significant effect upon the environment.

Mitigation Measures: DTSC has determined that the project does not require any mitigation measures beyond those incorporated as part of the project description.

This is to advise that the Department of Toxic Substances Control (DTSC), a Lead Agency, has approved the above described project on 11/10/2004 and has made the following determinations regarding the above described project:

1. The project will not have a significant effect on the environment
2. A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were not made a condition of the approval of this project.
4. A Statement of Overriding Considerations was not adopted for this project.
5. Findings were made pursuant to the provisions of CEQA.

This is to certify that the final environmental document with comments and responses and record of project approval is available to the public at the following location: DTSC, 5796 Corporate Avenue,Cypress, California 90630

DTSC Branch Chief Signature	Date
	11/18/04

DTSC Branch Chief Name	DTSC Branch Chief Title	Phone #
John E.Scandura	Branch Chief	(714) 484-5440

TO BE COMPLETED BY OPR ONLY

Date Received For Filing and Posting at OPR: _____

NEGATIVE DECLARATION

Submitting: ☐ **Draft**
☒ **Final**
☐ **Mitigated Negative Declaration**

Project Title: Proposed Plan/ Remedial Action Plan Operable Unit 1B Installation Restoration Program (IRP) 3 and 12

State Clearinghouse Number: 2002041052

Contact Person: Anantaramam Peddada Phone # (714) 484-5418

Project Location (*Include County*):

Red Hill Avenue and Edinger Avenue, Orange County, Tustin, California, 92710. The geographic coordinates of former MCAS Tustin are 33°42'34" North latitude and 117°49'30" West longitude.

Former MCAS Tustin is located within the cities of Tustin, and Irvine in Orange County, California, approximately one-half mile east of the Costa Mesa Freeway (State Route 55), between the San Diego (Interstate 405) and Santa Ana (Interstate 5) Freeways. The site is currently zoned by the City of Tustin as "MCAS Tustin Specific Plan."

Project Description:

The Navy proposes to remediate soil and groundwater contaminated by hazardous substances at Operable Unit (OU) 1B, Sites 3 and 12, which are located on the former Marine Corps Air Station (MCAS) Tustin. The original preferred remedy, described in a Proposed Plan dated April 2002; includes excavation of the contaminated soil, and on-site thermal treatment and reuse of the soil. After the Proposed Plan was presented to the public, additional information was obtained that indicated on-site thermal treatment and reuse of soil is no longer a viable option for soil disposal. This option was determined to be infeasible based on factors related to permitting of an on-site thermal treatment unit, utility connections, and additional treatment requirements. The Navy now proposes to excavate the contaminated soil and dispose of it at an off-site hazardous waste facility. DTSC prepared this Revised Negative Declaration to analyze the impacts of the proposed change.

The proposed project consists of remedial actions recommended in the Navy's revised Proposed Plan (PP)/Draft Remedial Action Plan (RAP) and Fact Sheet dated February 2004, to address releases of hazardous substances to soil and groundwater at OU-1B, Site 3 and Site 12 at former MCAS Tustin. The PP/Draft RAP satisfies the requirements for remedying hazardous substance release sites pursuant to section 25356.1 of the California Health and Safety Code, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the Code of Federal Regulations, Sections 300.400 et seq.

The preferred remedial action consists of excavating soil contaminated by volatile organic compound (VOC) from a hot spot area, disposing this soil at a permitted facility, and extracting and treating VOC-contaminated groundwater from a hot spot area and containment wells. Hot spot areas are classified as soil and groundwater contamination areas that are characterized by the highest concentrations of VOC chemicals. The remediation of soil and groundwater hot spots will expedite the cleanup of groundwater.

OU-1B consists of a paint stripper disposal area known as IRP-3 that occupies approximately 1.4 acres. The site includes seven buildings, several of which were used for chemical storage, painting, and paint stripping operations from 1967 to 1999 when military activities were discontinued. Solvents, paint strippers, battery acids, and water used for washing inactive oil/water separators were reportedly poured directly onto the ground outside some of the buildings.

A drum storage area known as IRP-12 occupies a total area of about 3.5 acres. The site was used by the Marine Corps primarily for materials storage and warehouse functions from the mid-1960s to 1975. Solvents, motor oil, and hydraulic fluids were stored in this area. A blimp and vehicle washing area and a hazardous waste storage area are also associated with IRP-12. These areas are located above one of the VOC plumes in groundwater associated with IRP-12.

VOCs are the contaminants of concern at both IRP-3 and IRP-12. Heavy metals were also found at the site at concentrations at or near expected background values that do not require remediation.

For containment of contaminated groundwater, extraction wells will be placed along the leading edge of each plume in the first and second water bearing zones (WBZs). Extraction of groundwater from these containment wells will create a hydraulic barrier to restrict further migration of VOCs within the shallow aquifer. For the hot spot, groundwater will be extracted from the well installed in the hot spot of VOC contamination located within the plume. The hot spot well will supplement the containment wells.

Extracted groundwater from both containment and hotspot wells will be treated using a granular activated carbon system to remove VOCs. After treatment, the clean water would be discharged to a storm drain that eventually flows to Peters Canyon Channel. The discharge of treated groundwater to Peters Canyon Channel will comply with the substantive provisions of the National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB), Santa Ana Region.

It is anticipated that project construction activities will take approximately 6 months to complete. They will start June 2005 and end in November 2005. The soil excavation will commence in February 2005 and last for one month. During the project construction activities, daily hours of operation will generally follow normal the business hours of 8 am to 5 pm. Once in place, the groundwater hot spot extraction well will be operated for approximately 10 years The groundwater hydraulic containment wells and treatment systems will be operated for 30 years or until contaminant concentrations are reduced to applicable VOC cleanup goals

To prevent the use of contaminated groundwater before remediation goals are met, there will be institutional controls, such as property deed restrictions, to restrict future use of contaminated groundwater, and limit human exposure. In addition, the deed restrictions will protect wells and other equipment installed at the former MCAS Tustin from tampering.

Specifically, the preferred remedial action consists of the following activities.

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.
- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.
- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.
- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.
- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

Findings of Significant Effect on Environment:

DTSC has prepared a Revised Initial Study pursuant to the requirements of the California Environmental Quality Act (CEQA, Section 21000 et seq., California Public Resources Code) and implementing Guideline (Section 15000 et seq.,

Title 14, California Code of Regulations). Based upon this analysis, DTSC has determined that the proposed project will not have a significant effect upon the environment.

Mitigation Measures: DTSC has determined that the project does not require any mitigation measures beyond those incorporated as part of the project description.

DTSC Branch Chief Signature

11/18/04
Date

John E. Scandura	Southern California Branch Office of Military Facilities	(714) 484-5440
DTSC Branch Chief Name	DTSC Branch Chief Title	Phone #

CALIFORNIA ENVIRONMENTAL QUALITY ACT

REVISED INITIAL STUDY

The Department of Toxic Substances Control (DTSC) has completed this Revised Initial Study for this project in accordance with the California Environmental Quality Act (§ 21000 et seq., California Public Resources Code) and implementing Guidelines (§15000 et seq., Title 14, California Code of Regulations). The Navy proposes to remediate soil and groundwater contaminated by hazardous substances at Operable Unit (OU) 1B, Sites 3 and 12, which are located on the former Marine Corps Air Station (MCAS) Tustin. The original preferred remedy, described in a Proposed Plan dated April 2002; includes excavation of the contaminated soil, and on-site thermal treatment and reuse of the soil. After the Proposed Plan was presented to the public, additional information was obtained that indicated on-site thermal treatment and reuse of soil is no longer a viable option for soil disposal. This option was determined to be infeasible based on factors related to permitting of an on-site thermal treatment unit, utility connections, and additional treatment requirements. The Navy now proposes to excavate the contaminated soil and dispose of it at an off-site hazardous waste facility. DTSC prepared this Revised Initial Study to analyze the impacts of the proposed change

The proposed project consists of remedial actions recommended in the Navy's revised Proposed Plan (PP)/Draft Remedial Action Plan (RAP) and Fact Sheet dated February 2004, to address releases of hazardous substances to soil and groundwater at OU-1B, Site 3 and IRP Site 12 at former MCAS. The PP/draft RAP satisfies the requirements for remedying hazardous substance release sites pursuant to section 25356.1 of the California Health and Safety Code, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the Code of Federal Regulations, Sections 300 400 et seq.

DTSC issued an Initial Study for the original preferred remedy for public comment from April 10 through May 9, 2002 and received several comments on the Initial Study. These comments and DTSC's responses are located in Appendix B of this document. As noted in DTSC's responses, applicable comments have been incorporated into the project and added to the discussion of the project in this Revised Initial Study.

I. PROJECT INFORMATION

Project Name:

Operable Unit (OU) 1B, Installation Restoration Program (IRP) Site 3 (Paint Stripper Disposal Area) and IRP Site 12 (Drum Storage Area No.2)
Marine Corps Air Station (MCAS) Tustin
Proposed Plan/Draft Remedial Action Plan

Site Location:

Newport Freeway at Edinger Avenue, Tustin, California, 92710. The geographic coordinates of MCAS Tustin are 33°42'34" North latitude and 117°49'30" West longitude.

MCAS Tustin is located within the cities of Tustin, and Irvine in Orange County, California, approximately one-half mile east of the Costa Mesa Freeway (State Route 55), between the San Diego (Interstate 405) and Santa Ana (Interstate 5) Freeways. The site is currently zoned by the City of Tustin as "MCAS Tustin Specific Plan (SP)" compatible with the City of Tustin's General Plan designation of "MCAS Tustin Specific Plan (SP)"

For reference, the following location maps are provided as attachments:

- Attachment B – MCAS Tustin Location Map
- Attachment C – Operable Unit 1B, Installation Restoration Program Sites 3 and 12 Location Map
- Attachment D – Alternative 7 Hydraulic Containment with Hot-Spot Source Removal Site Layout

Contact Person/ Address/ Phone Number:

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BRAC Environmental Coordinator
Base Realignment and Closure
MCAS Tustin
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(619) 532-0975

Project Description:

The preferred remedial action consists of excavating soil contaminated by volatile organic compound (VOC) from a hot spot area, disposing this soil at a permitted facility, and extracting and treating VOC-contaminated groundwater from a hot spot area and containment wells. Hot spot areas are classified as soil and groundwater contamination that are characterized by the highest concentrations of VOC chemicals. The remediation of soil and groundwater hot spots will expedite the cleanup of groundwater.

OU-1B consists of a paint stripper disposal area known as IRP-3 that occupies approximately 1.4 acres. The site includes seven buildings, several of which were used for chemical storage, painting, and paint stripping operations from 1967 to 1999 when military activities were discontinued. Solvents, paint strippers, battery acids, and water used for washing inactive oil/water separators were reportedly poured directly onto the ground outside some of the buildings.

A drum storage area known as IRP-12 occupies a total area of about 3.5 acres. The site was used by the Marine Corps primarily for materials storage and warehouse functions from the mid-1960s to 1975. Solvents, motor oil, and hydraulic fluids were stored in this area. A blimp and vehicle washing area and a hazardous waste storage area, are also associated with IRP-12. These areas are located above one of the VOC plumes in groundwater associated with IRP-12. VOCs are the contaminants of concern at both IRP-3 and IRP-12. Heavy metals were also found at the site at concentrations at or near expected background values that do not require remediation.

For containment of contaminated groundwater, extraction wells will be placed along the leading edge of each plume in the first and second water bearing zones (WBZs). Extraction of groundwater from these containment wells will create a hydraulic barrier to restrict further migration of VOCs within the shallow aquifer. For the hot spot, groundwater will be extracted from the well installed within hot spot of VOC contamination located within the plume. The hot spot well will supplement the containment wells.

Extracted groundwater from both containment and hotspot wells will be treated using a granular activated carbon system to remove VOCs. After treatment, the clean water would be discharged to a storm drain that eventually flows to Peters Canyon Channel. The discharge of treated groundwater to Peters Canyon Channel will comply with the substantive provisions of the National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB), Santa Ana Region

It is anticipated that project construction activities will take approximately 6 months to complete. They will start August 2005 and end in December 2005. The soil excavation will commence in July 2004 and last for one month. During the project construction activities, daily hours of operation will generally follow normal the business hours of 8 am to 5 pm. Once in place, the groundwater hot spot extraction well will be operated for approximately 10 years. The groundwater hydraulic containment wells and treatment

systems will be operated for 30 years or until contaminant concentrations are reduced to applicable VOC cleanup goals.

To prevent the use of contaminated groundwater before remediation goals are met, there will be institutional controls, such as property deed restrictions to restrict future use of contaminated groundwater, and limit human exposure. In addition, the deed restrictions will protect wells and other equipment installed at the former MCAS Tustin from tampering.

Table 1 shows contaminants of concern and remediation goals at OU-1B, IRP-3 and IRP-12 (BNI 2002).

Table 1. MCAS Tustin OU-1B Contaminants of Concern and Remediation Goals

Contaminant	Detection Frequency[a]	Concentration Range (μg/L)[b]	Remediation Goal (μg/L)[b]	Basis for Goal
IRP-3				
Trichloroethene (TCE)	19/52	3 - 1,742	5	Federal MCL[c]
1,2-dichloroethene (1,2 DCE)	11/52	6 – 290	6	Calif. MCL[c]
1,1-dichloroethane (DCA)	3/52	6 – 12	5	Calif. MCL[c]
1,1-dichloroethene (DCE)	2/52	11 – 110	6	Calif. MCL[c]
IRP-12				
Trichloroethene	24/65	7 – 3,900	5	Federal MCL[c]
1,2-dichloroethane (1,2 DCA)	9/65	4 – 8	0.5	Calif. MCL[c]
1,1,2-trichloroethane (1,1,2 TCA)	2/65	4 - 6	3	Federal MCLG[d]

Table 1. Notes:
a Number of samples in which the contaminant was detected/total number of groundwater samples collected during the RI and RFA (BNI 1997a,b)
b μg/L: micrograms per liter.
c Maximum Contaminant Level.
d Maximum Contaminant Level Goal.

Specifically, the preferred remedial action consists of the following activities.

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- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.
- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.
- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer, that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

The Navy [in conjunction with California Department of Toxic Substances Control (DTSC)] will retain responsibility for the oversight of remedial activities until the remedial action objectives for the site are achieved. In addition, if a determination is made in the future that the selected remedy is no longer protective of human health and the environment because the remedy failed to perform as expected, the DON is obligated to return to perform such additional cleanup as would be generally required by regulatory agencies. The Navy will retain ownership of the hydraulic containment and hot spot extraction wells recommended in the selected remedy until the time they are abandoned at the conclusion of the remedy, after the remedial action objectives are achieved.

Project Background:

MCAS Tustin encompasses about 1,600 acres within central Orange County, California. It was commissioned in 1942 and operated until 1999. On 14 May 2002, the Department of Navy (DON) transferred the majority of former MCAS Tustin property surrounding IRP-13S to various public agencies. Additional property within the former housing areas at MCAS Tustin was sold through public sale in early 2003. The remaining property at the station that is under the control of the DON includes areas where environmental investigations or cleanup have yet to be conducted, including IRP3 and IRP-12.

SOIL AND GROUNDWATER INVESTIGATIONS AT IRP-3

IRP-3 was first identified as a potentially contaminated area during an Initial Assessment Study conducted under the Navy Assessment and Control of Installation Pollutants Program. In 1991, a Site Inspection (SI) was conducted at IRP-3 that included a soil gas survey and collection of shallow soil and groundwater samples.

The SI data confirmed reported releases of hazardous constituents in the area now recognized as IRP-3. Trichloroethene (TCE) and chloroform were detected in soil gas and groundwater samples across the site and TCE, total petroleum hydrocarbons (TPH), bis (2-ethylhexyl) phthalate, pesticides, and polychlorinated biphenyls (PCBs) were found in soils. Heavy metals including lead, cadmium, chromium, and zinc were also identified in soils but at concentrations near expected background values.

The subsequent Remedial Investigation (RI) was conducted to confirm the findings of the SI and determine the vertical and lateral extent of soil and groundwater contamination at IRP-3. TCE, a solvent used for degreasing, was the most frequently detected and widely distributed contaminant in soil and groundwater samples collected during the RI. This contamination was attributed to sources such as historical surface spills, past waste disposal activities, and an inactive oil water separator (OWS) associated with Buildings 29A and 174.

In 1997, a post-RI-sampling program was completed to further refine the boundary of TCE-contaminated soil in the saturated zone. This work was initiated on the basis of the findings of groundwater contaminant fate and transport modeling conducted to support the draft Feasibility Study (FS) Report for OU-1. Computer simulations of TCE movement in the subsurface indicated that residual chlorinated material adsorbed on soils below the water table, especially on clays and silts, and acts as a significant secondary source of groundwater contamination in the vicinity of IRP-3.

In 1999, Resource Conservation and Recovery Act (RCRA) corrective action activities were completed at Buildings 29A and 174. At Building 174, the OWS was removed and some soil contaminated with TCE and TPH was excavated. TCE contamination with concentrations as high as 180,000 micrograms per kilogram (µg/kg) was detected during RCRA corrective action activities. At Building 29A, the OWS was removed and TPH and TCE-contaminated soil was excavated. Residual TCE soil contamination was also left in place at 29A with a maximum concentration of 730 µg/kg.

Three TCE degradation products were also detected in IRP-3 soil samples These were 1, 1-dichloroethane (DCA), 1, 1-dichloroethene (DCE), and 1, 2-DCE. Two other TCE degradation products, 1, 2-DCA and vinyl chloride (VC) were not detected. Site-related metal contamination was limited to the top two feet of soil at IRP-3. Lead was the most frequently detected metal, occurring above background concentrations in 25 percent of the shallow soil samples. Other metals of potential concern in IRP-3 soils included cadmium, total chromium, hexavalent chromium, copper, silver, and zinc. The metals concentrations were below background levels after corrective action activities were completed.

Groundwater contamination originating at IRP-3 has been identified in the first and second WBZs to a maximum depth of about 40 feet below ground surface (bgs). There is no evidence, either from the RI or subsequent groundwater monitoring at MCAS Tustin, that TCE contamination from IRP-3 has impacted the third WBZ or the regional aquifer. Recent data indicate that TCE concentrations have stabilized at 1,200 to 1,700 µg/L in the plume core. Contaminated groundwater was found to extend approximately 1,050 feet to the south of the IRP-3 source area, following the predominant hydraulic gradient, with a maximum width of about 600 feet. The quarterly groundwater monitoring program found that the downgradient extent of TCE contamination expanded by approximately 60 feet after the completion of the RI field program.

Although TCE was the primary groundwater contaminant identified at IRP-3, several other VOCs were also detected in samples collected for the RI and the post-RI program. The TCE degradation products 1, 2-DCE, 1, 1-DCA, and 1, 1-DCE were consistently identified at low concentrations within the affected groundwater. Other TCE breakdown products, principally VC and 1, 2-DCA, were not detected during the RI but were found during the post-RI groundwater monitoring program. Two chlorofluorocarbons (CFCs) used as industrial solvents, trichlorofluoromethane and 1, 1, 2-trichloro-1, 2, 2-trifluoroethane (CFC - 113), have been identified in groundwater samples from IRP-3. The other solvents and solvent degradation products detected in IRP-3 groundwater included acetone, chloroform, methylene chloride, 1,1,2,2-tetrachloroethane, 1,1,1-trichloroethane (TCA), and 1,1,2-TCA. Among the heavy metals, only total chromium, hexavalent chromium, and molybdenum were detected above background concentrations in IRP-3 groundwater.

SOIL AND GROUNDWATER INVESTIGATIONS AT IRP-12

The initial subsurface investigation at IRP-12 was conducted during a 1991 SI. This assessment consisted of a soil gas survey and a collection of shallow soil and groundwater samples. Limited surficial soil contamination of primarily TPH at concentrations up to 730 milligrams per kilogram (mg/kg) were detected. Pesticide contaminants identified in soil during the SI included dichlorodiphenyltrichloroethane, dichlorodiphenyldichloroethene, and dichlorodiphenyldichloroethane. The only other organic compounds detected in soils at IRP-12 were methylene chloride, acetone, and bis (2-ethylhexyl) phthalate at maximum concentrations of 68, 39, and 600 µg/kg, respectively. TCE was not detected in any SI soil samples. Several heavy metals, including arsenic, chromium, copper, lead, mercury, nickel, and zinc were found in shallow soils at concentrations near expected background values. All IRP-12 groundwater samples collected during the SI had detectable concentrations of selenium, which ranged from 80 to 380 µg/L. One groundwater sample collected at 21 feet bgs in the area north of Building 90 contained 1,000 µg/L TCE.

One of the objectives of the RI field program was to confirm the SI results and determine the extent of soil and groundwater contamination at IRP-12. The major contaminants identified during the RI included TCE in soil and groundwater and TPH in soil. The presence of TCE in soil and groundwater was attributed to surface disposal of solvents and spills and leakage from solvent storage containers situated on the ground surface. It is believed that these releases occurred before the early 1980s. A post-RI field sampling program was completed in 1997 to verify the distribution of TCE in soil at IRP-12. This supplementary sampling effort confirmed the data interpretations presented in the RI Report and additional TCE source areas were not identified at IRP-12.

TCE was the most frequently detected soil contaminant at IRP-12. Common TCE degradation products, including 1, 1-DCA, 1, 1-DCE, 1, 2-DCE, 1, 2-DCA, and VC, were not identified during the RI or post-RI soil sampling programs. TCE was found in vadose-zone samples, generally those collected above 7 feet bgs, as well as in deeper soil samples from the saturated zone. Four distinct areas of contamination were identified during the RI.

At all four contaminant source areas identified at IRP-12, TCE concentrations in soil were significantly greater in the first encountered saturated zone that is 12 feet bgs compared with the vadose zone at 2 to 3 feet bgs. This is a typical pattern at sites where TCE releases to the ground surface have occurred historically but not in the recent past. Given its volatility, TCE from an older release would be expected at lower concentrations in surface soil compared with deeper saturated soil

Site-related metal contamination was also generally found in the upper portion of the vadose zone. Lead, selenium, and zinc were detected at 1 to 2 feet bgs. The presence of elevated TPH in these surficial soils, together with reported releases of used motor oil, suggests that these metals be related to waste oil. Mercury was detected in six soil samples at concentrations slightly above background levels. Because of the reported storage of wastes containing mercury, the RI Report concluded that this metal was also probably a site-related contaminant in IRP-12 soil

TCE is the principal VOC released to groundwater from the contaminated soil source areas at IRP-12. Groundwater contamination has been identified in the first and second WBZs to a maximum depth of 50 feet bgs. There is no indication from the RI or subsequent groundwater monitoring events that TCE releases from IRP-12 have impacted either the third WBZ or the regional aquifer. Two groundwater plumes have been identified. Plume 12W extends approximately 450 feet to the southwest, following the predominant direction of shallow groundwater flow at MCAS Tustin. The maximum width of Plume 12W is about 150 feet. The downgradient extent of this plume appears to be located near Copeland Street across from the southwestern end of Building 90. Recently, permanent monitoring wells completed within this plume indicate maximum TCE concentrations in the range of 350 to 460 µg/L.

To date, groundwater-monitoring results do not indicate significant expansion of Plume 12W beyond the boundaries developed from the RI data. Plume 12E apparently originates in TCE source areas to the east and northeast of Building 20B. This plume has migrated about 1,800 feet to the south and has a maximum estimated width of 400 feet. Recent groundwater monitoring data suggest that the downgradient boundary of Plume 12E expanded by approximately 50 feet between completion of the RI field program in 1996 and the end of 1997.

Several other VOCs have also been identified in the plumes originating at IRP-12. The solvent 1, 2-DCA was detected at concentrations of 4 to 8 µg/L within Plume 12E. A TCE degradation product, 1, 2-DCE, was measured at 4 µg/L in one RI groundwater sample from Plume 12W. Traces of another solvent, 1, 1, 2-TCA, have also been detected. Two CFCs, Freon 113 and 1, 2-dichloro-1, 1, 2-trifluoroethane (Freon 123a), have been detected at concentrations up to 900 µg/L. The distribution of the CFCs appears to be coincident with Plume 12E, suggesting that these solvents were released with TCE.

Three heavy metals have been measured in contaminated groundwater associated with IRP-12. Cadmium, chromium, and hexavalent chromium were detected at maximum concentrations of 5, 32, and 3 µg/L, respectively. Cadmium and chromium do not exceed their maximum contaminant levels (MCLs)

of 5 and 50 µg/L, respectively. An MCL for hexavalent chromium has not been established. The maximum concentration of each metal occurred in the first WBZ at approximately 25 feet bgs.

Cadmium is a constituent of waste oils and paint pigment. Chromium, measured as either total or hexavalent chromium, can be found in waste oils, residuals from paint stripping and metal-polishing operations, and in chemicals used for industrial cleaning. The occurrence of cadmium and chromium in IRP-12 groundwater at depths coincident with TCE contamination suggests that both metals are related to waste releases from the drum storage areas.

References:

BNI, 2002

Agencies Having Jurisdiction over the Project/ Types of Permits Required:

California Regional Water Quality Control Board (RWQCB), Santa Ana Region/National Pollutant Discharge Elimination System (NPDES) permit.

Orange County Flood Control District/encroachment permit for discharge into storm drainage system.

II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC

- ❑ Initial Permit Issuance
- ❑ Permit Renewal
- ❑ Permit Modification
- ❑ Closure Plan
- ❑ Regulations
- ■ Remedial Action Plan
- ❑ Removal Action Workplan
- ❑ Interim Removal
- ❑ Other (Specify)

_____

Program/ Region Approving Project:

DTSC Site Mitigation Program
Office of Military Facilities,
Southern California Branch – Cypress Office

Contact Person/Address/Phone Number:

Anantaramam Peddada
Remedial Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630
(714) 484-5418

III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED

The boxes checked below identify environmental resources which were found in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS section to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact"

- ❑ Aesthetics
- ❑ Agricultural Resources
- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resources
- ❑ Geology And Soils
- ❑ Hazards and Hazardous Materials
- ❑ Hazards and Hazardous Materials
- ❑ Hydrology and Water Quality
- ❑ Land Use and Planning
- ❑ Mineral Resources
- ❑ Noise
- ❑ Population and Housing
- ❑ Public Services
- ❑ Recreation
- ❑ Transportation and Traffic
- ❑ Utilities and Service Systems
- ❑ Cumulative Effects

IV. ENVIRONMENTAL IMPACT ANALYSIS

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's California Environmental Quality Act Initial Study Workbook [Workbook]. A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g.: permit condition) or which are required under a separate Mitigation Measure Monitoring or Reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

1. Aesthetics

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The project site is located in an urban industrialized area on MCAS Tustin that is currently unoccupied. The base was closed on July 1999. The base property is currently zoned for "MCAS Tustin Specific Plan (SP)" use and is situated on approximately 1,600 acres in central Orange County, California. Most of the base lies within the city of Tustin, with portions of the base bordering the cities of Santa Ana and Irvine. Development on the base, including military housing and infrastructure, occupies all but 530 acres.

IRP-3 (Paint Stripper Disposal Area) occupies approximately 1.4 acres in the center of MCAS Tustin and the associated TCE groundwater plume underlies approximately 10.5 acres in the first WBZ and 3 acres in the second WBZ. IRP-3 is associated with a former industrial area of the base that is presently vacant. It is anticipated that the thermal treatment system would be located at IRP-3. IRP-12 (Drum Storage Area No. 2) occupies a total area of about 3.5 acres.

The general visual characteristic of MCAS Tustin is that of unvaried, level terrain, punctuated by pockets of buildings and structures of differing size; large concrete areas (associated with aircraft facilities), open agricultural land, and infrastructure elements such as roads, parking lots, and utility lines

Analysis of Potential Impacts:

The proposed project consists of groundwater extraction and soil excavation due to VOC contamination. Soil will be excavated from five areas and following excavation, the contaminated soil will be placed directly on trucks and transported to a class 1 off site facility for disposal. (Kettleman City Hazardous Waste Disposal Facility)

Prior to excavation, two existing buildings located in contaminated zones will be demolished to allow access to contaminated soils. IRP-3 is located in a former industrial area that will not be developed during the excavation, and disposal of contaminated soil.

The proposed project will also consist of construction of groundwater extraction and monitoring wells, ancillary piping, and a GAC treatment system. The GAC treatment system will be surrounded by a security fence. Drilling activities will be conducted during normal business hours using portable drill rigs. Monitoring well vaults will be flush with the ground surface. The piping will be located below grade. Extraction wells will be located below ground surface and screened at the required depth to meet engineering specifications. Fencing for the groundwater treatment system will be installed to protect and screen the system from view.

It is anticipated that project construction activities (including soil excavation and well drilling) will take approximately 6 months to complete, starting in August 2005 and ending in December 2005 except the soil excavation will commence in July 2004 and lasts about a month. During project construction activities, daily hours of operation will generally follow normal business hours (i.e., 8 am to 5 pm). Once in place, the groundwater hot spot extraction wells will be operated for approximately 10 years and the groundwater hydraulic containment wells will be operated for approximately 30 years and be turned off after contaminant concentrations are reduced to applicable VOC MCL levels.

Given that the project construction activities are temporary, are being conducted in unoccupied and vacant areas of the base, aesthetic impacts from project activities will be less than significant Visual and aesthetic impacts from installation and operation of the long-term groundwater treatment system will also be less than significant because wells and piping will be installed flush with the ground surface or underground, and the treatment system (pump and unit, etc.) will be fenced and screened.

Describe to what extent project activities would:

a. Have a substantial adverse effect on a scenic vista.

   The project site area does not include any scenic vistas, and therefore, project activities will not have an adverse effect on any scenic vista.

b Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.

   The project site is not located along or near a state scenic highway and will therefore not damage any scenic resources associated with a state scenic highway.

c. Substantially degrade the existing visual character or quality of the site and its surroundings.

   Since the project is located in a former industrialized area no longer in use of the base due to base closure, project construction activities are temporary, and excavations and wells will be restored or placed consistent with pre-project grade, the project should not substantially degrade the existing visual character of the site.

d. Create a new source of substantial light of glare, which would adversely affect day or nighttime views in the area.

   All project construction activities are temporary and site excavations will be backfilled to pre-project grade. In addition, most groundwater treatment system elements will be below ground surface. Given the amount of concrete already in the area (from aircraft runways and parking lots, etc.) which may serve as a source for glare, both the temporary project construction activities and long-term groundwater treatment system are not expected to create a substantial new source for glare.

References:

BNI, 2002

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

2. Agricultural Resources

Project activities likely to create an impact:

None

Description of Environmental Setting:

The United States Natural Resources Conservation Service (NRCS) classifies suitability of an area for agricultural use based on physical and chemical features of the land. The NRCS has the following seven farmland classifications: Prime Farmland (P), Farmland of Statewide Importance (S), Unique Farmland (U), Farmland of Local Importance (L), Grazing Land (G), Urban and Built-up Land (D), and Other Land (X).

IRP-3 and IRP-12 are primarily located in an area classified as Urban and Built-up Land (D) in which the land is occupied by structures or infrastructure to accommodate a building density of at least one unit to one and one-half acres, or approximately six structures to ten acres.

Analysis of Potential Impacts:

Both IRP-3 and IRP-12 sites are located in areas classified as Urban and Built-up Land and both also border land that is identified as prime farmland. However, there have been no agricultural activities at the base since December 2000. Because the project construction activities are time-limited, will not remove prime farmland from use, and the project will have a less than significant effect on agricultural resources.

Describe to what extent project activities would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

   The project activities may temporarily disturb very limited portions of areas previously designated as Prime Farmland, but the project will not permanently convert farmland to non-agricultural uses.

b. Conflict with existing zoning or agriculture use, or Williamson Act contract.

   MCAS Tustin properties are not enrolled under a Williamson Act contract and project activities are consistent with the current land use designations in the area.

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses.

   There is no existing farming activity at the site and project activities are not expected to permanently encroach on farmland. In addition, all excavated land will be backfilled to pre-project grade and groundwater extraction and treatment system elements will be placed at ground surface or below grade. Therefore, the proposed project activities will not significantly impact the existing environment in a manner that could result in conversion of farmland to non-agricultural uses.

References:

Tustin et al., 1999

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

3. Air Quality

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

MCAS Tustin is located within the South Coast Air Basin, which is a 6,600-square mile area that encompasses all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. In the Tustin area, the coolest months are November through March, with an average temperature of 59 degrees Fahrenheit (°F) and the warmest months are July through September, with an average temperature of 70°F. The mean annual precipitation at MCAS Tustin is 11.4 inches. Ninety-nine percent of the annual precipitation occurs November through April.

Predominant daily winds consist of a morning onshore airflow from the west/southwest and afternoon and evening offshore airflows from the north/northeast with little variability between seasons. The typical wind condition is from the west/southwest at less than approximately 11 miles per hour. The prevailing winds carry air contaminants east and northward. On occasion, during fall and winter months, offshore winds, referred to as Santa Ana winds, may develop as a result of a high-pressure system situated over the Mojave and Colorado deserts and the Great Basin east of the South Coast Air Basin. Santa Ana winds are usually warm and dry, and can reach speeds in excess of 50 miles per hour.

The California Air Resources Board (CARB) designates areas of attainment, nonattainment, or unclassified for each of the pollutants for which state ambient air quality standards have been established. Currently, standards have been established for nine criteria pollutants, including ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter, sulfates, lead, hydrogen sulfide and visibility-reducing particles. According to the 2000 State Area Designation Maps of California (based on data collected during the period 1997 to 1999), all areas in the State are either designated as attainment or unclassified areas for nitrogen dioxide, sulfur dioxide, lead and visibility-reducing particles. The project is located in an air basin designated as a nonattainment area for ozone (O_3), suspended particulate matter (PM-10) and carbon monoxide (CO). Air emissions in the project area are regulated by the SCAQMD.

An Air Quality Impact Analysis was prepared for this project in accordance with the SCAQMD's California Environmental Quality Act (CEQA) Handbook (April 1993), and is presented in Appendix A The air quality impacts of the project are below that which would be considered significant (Table A-1 in Appendix A).

Analysis of Potential Impacts:

Temporary emissions associated with project activities include vehicle emissions, construction equipment emissions, and dust from soil excavation and trenching. Equipment used for construction will include trucks, a backhoe and loader. Standard internal combustion engines (such as those used in passenger vehicles, trucks, and heavy equipment) will have the required smog abatement equipment installed as required within the South Coast Air Basin to control emissions. Appropriate dust control features will be instituted for all soil excavation such as use of water spray at least two times daily and suspending excavation activities when winds exceed 25 miles per hour, and compacting backfilled excavation areas. Excavation equipment and trucks used in soil transport will also be washed down prior to leaving the project site to further control fugitive dust. Soil excavation and grading will only be performed at five hot spot locations (covering approximately 0.4 acres); daily excavation and grading activities will not exceed the SCAQMD daily threshold levels.

The proposed project consists of extraction and treatment of VOC-contaminated groundwater. The extracted groundwater will be treated using a GAC system. Since the contaminated groundwater is being treated directly, air emissions are not anticipated. As a result, a SCAQMD permit for air emissions from the GAC is not needed.

Since project construction activities will be time-limited, undertaken according to applicable SCAQMD construction best management practices, and do not exceed screening levels for construction thresholds of significance. Air quality impacts from project activities are judged to be less than significant.

Rules and regulations that may apply and which will be strictly adhered to include:

Rule 401 – Visible Emissions. This rule prohibits single source emissions to the atmosphere that would create unacceptable opacity levels set forth by the SCAQMD.

Rule 402 – Nuisance. The rule prohibits the discharge of emissions from any source in which quantities of air contaminants may cause injury, detriment, nuisance, or annoyance to the public. The rule also prohibits emissions that may endanger the comfort, repose, health or safety of the public

Rule 403- Fugitive Dust. This rule provides for minimizing fugitive dust emissions beyond the property line of the emission source. To comply with SCAQMD Rule 403, dust monitoring will be conducted (dust monitoring may be conducted using a Miniram dust meter [PDM-3 or equivalent.]) for particulate matter (PM_{10}). The location for the air samplers will be based on the prevailing wind directions and location of emissions sources. The air samplers will be primarily used to monitor dust levels at the Site perimeter. According to Rule 403, PM_{10} levels should not exceed 50 $\mu g/m^3$; determined as the difference between upwind and downwind samples.

Rule 1166 – SCAQMD Rule 1166 regulates volatile organic emissions from decontamination of soil.

The project will not degrade air resources which will individually or cumulatively result in a loss of biological diversity among plants and animals Onsite placement and compaction of soil will be conducted in accordance with the rules and regulations of the SCAQMD. The effect of this project on air quality, if any, is temporary and in a very short period of time. The project does not have any permanent or cumulative effect on air quality The chemicals of concern at the Site (e.g. PAHs) do not elevate the temperature, do not generate or release potential ozone depleting gases, significant objectionable odors, or other toxic air contaminants

Substantial amounts of dust are not expected from soil removal activities Protective measures that will be employed during soil excavation, and transportation activities, will include keeping exposed soil moistened in areas of activity, covering trucks, or maintaining at least 2 feet of freeboard above truck loads. These measures should keep fugitive dust emissions to insignificant levels.

The removal action activities will be conducted onsite. Objectionable odors are not anticipated based on the known contaminants, the removal action approach, and environmental control systems to be implemented will include:

- Use of water spray at least two times daily to reduce emissions from exposed soils (50% control efficiency for PM10);
- Use of equipment with low exhaust emissions;
- Keep vehicles tuned to manufacturer specifications (5%control efficiency for NOx);
- Enclose, cover, water twice daily, or apply non-toxic soil binders in accordance with manufacturer's specifications, to exposed piles (i.e., gravel, sand dirt) with 5% or greater silt content;
- Routine monitoring of excavations and Site perimeter using a flame ionization detector (to monitor VOCs); and
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of Civil Vehicle Code Section 23114 of the SCAQMD (7-14% control efficiency for PM10).

Dust control implementation will prevent significant degradation of air sources which will individually or cumulatively result in a loss of biological diversity among the plants and animals residing in that air.

Therefore, the project activities would not:

a. Conflict with or obstruct implementation of the applicable air quality plan.

   The SCAQMD has established long-term daily significance thresholds for projects in the Basin. These thresholds are described in Chapter 6 of the SQAMD's CEQA Handbook. A project's impact is considered significant if long-term operational emissions exceed any of these thresholds. Based on the project description, there will be no long-term emission impacts. Therefore, the project will not conflict with or obstruct the implementation of the current applicable air quality plan. In addition, project activities will be performed in compliance with applicable state and local air quality requirements, the project will not conflict with or obstruct implementation of any air quality plans.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

   Project activities will be conducted according to SCAQMD requirements; consequently, violations of air quality standards are not expected. If the volatile organic emissions exceed 1000 parts per million (ppm) during excavation of the soil appropriate action will be taken.

c. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

   Project activities do not exceed SCAQMD short or long-term significant impacts and all treatment units will be operated in accordance with applicable SCAQMD requirements. Therefore, the project is judged to not result in any cumulatively considerable net increase of criteria pollutants.

d. Expose sensitive receptors to substantial pollutant concentrations

Receptors considered sensitive to air pollution are facilities resulting in a concentration of people, especially children, seniors, or the chronically ill. The closest sensitive receptors to the project site would be located in the existing residential area approximately one-half mile from the site. Because of the controls placed on project emissions and the distance from the project site, sensitive receptors will not be exposed to substantial pollutant concentrations from project activities. The SCAQMD rules will be followed throughout project implementation. Preventative measures include wetting of soils and air monitoring for VOCs to assure requirements are met.

e. Create objectionable odors affecting a substantial number of people.

The activities associated with the proposed project are not expected to create objectionable odors. In the event that odors are created, the lead agency will comply with SCAQMD Rule 402-Nuisance.

References:

BNI, 2002
CARB, 2001
Tustin, et al, 1999
SCAQMD, 1993

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

4. Biological Resources

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Vegetation in the project area is generally categorized as cultivated fields, non-native grassland, or ornamental landscaping. Agricultural and historic military uses at MCAS Tustin have resulted in clearing of the native vegetation. The existing cultivated fields and landscaped areas do not provide suitable habitat for rare or sensitive plant species. In addition, the agricultural and industrial land uses in the project area limit the site's value as wildlife habitat. The project area environment has been highly disturbed by both military and agricultural activities and most of the project area is covered by buildings, concrete runways, asphalt paved areas, or highly disturbed or cultivated land

There are approximately 29 acres of jurisdictional waters and 2.4 acres of vegetated or seasonal wetlands at MCAS Tustin. However, none of these wetlands sites are in close proximity to project areas IRP-3 and IRP-12.

Southwestern pond turtles, identified as a "species of concern" by the California Department of Fish and Game (CDFG), Rarefind report (Tustin Quadrangle) identified at former MCAS Tustin in a drainage channel known as San Joaquin Ditch in June of 1993. San Joaquin Ditch is located in the southeastern portion of MCAS Tustin, between Jamboree Road and family housing adjacent to Harvard Avenue. It is a narrow, V-shaped flood control channel without nesting habitat within its banks. To build nests, the turtles must climb out of the channel and use adjacent upland habitat. The adjacent upland habitat in the project area is disturbed land/fields with compacted soil. There is no appropriate nesting habitat for the turtles at the project sites. Updated information from the July 13, 2003 CDFG report did not list more recent findings for southwestern pond turtles in the Peters Canyon Channel or in the San Joaquin Ditch.

The proposed project will generate approximately 24 gallons per minute (gpm) of treated effluent from the groundwater treatment system that will be discharged to the Peters Canyon Channel. The treated clean groundwater will be discharged in accordance with the Santa Ana Regional Water Quality Control Board (RWQCB) discharge permit requirements and will not pose harm to the to existing or potential habitat Peters Canyon Channel is an unlined drainage ditch, traversing former MCAS Tustin from Edinger Avenue to Barranca Parkway. While not included in a CDFG 2002 report from the Natural Diversity Data Base, the MCAS Tustin 1999 Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) states that four loggerhead shrikes, identified as a species of concern by CDFG, were observed on the base in March 1993. The shrikes may nest onsite at MCAS Tustin but no nests have been report at or near the project site. The species is somewhat tolerant of urban and suburban development and can also be found nesting within city boundaries in many locations. However, there are no undisturbed areas around the project site so potential nesting (in shrubs and trees) in the project area is not expected.

Analysis of Potential Impacts:

Since there is no suitable habitat at the project site and no known rare, threatened, endangered, or candidate animal or plant species were identified at the project site, significant disturbances to animal or plant life due to the proposed project are not expected. For discussion of effluent discharge to the Peters Canyon Channel see under Hydrology and Water Quality Analysis of Potential Impacts.

Describe to what extent project activities would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

   While Southwestern pond turtles, identified as a "species of concern" by the CDFG, have been identified at MCAS Tustin in San Joaquin Ditch, there is no appropriate nesting habitat for the turtles at the project sites. In addition, no pond turtles or sensitive species have been identified in Peter's Canyon Channel where treated groundwater discharges from the project will be discharged. The groundwater will be discharged in accordance with the RWQCB discharge permit requirements. Substantial adverse effects on loggerhead shrikes are also not expected because no undisturbed nesting sites are available in the project area. The maximum magnitude of the discharge of clean treated water is anticipated to be approximately 24 gallons per minute from 0 to 10 years, and approximately 8 gallons per minute from 10 to 30 years after the remedy is implemented. This level of discharge is not expected to result in excess surface water ponding that could change the habitat of vegetation and animals currently present in Peters Canyon Channel. Without excessive pooling, invasive species such as the bullfrog and *arundo donax* are not anticipated to present a problem. *Arundo donax* presents a potential problem where excessive pooling is present and if an *arundo donax* population is present upstream. No *arundo donax* has been observed in Peters Canyon channel.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

   The project site does not contain any riparian habitat or other sensitive natural community.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

   None of the potential wetlands sites identified at MCAS Tustin are in close proximity to project areas IRP-3 and IRP-12 so project activities will not impact these wetlands. In addition, discharges into Peter's Canyon Channel, a potential jurisdictional wetland, will be very small (24

gpm for the first 10 years of operation and decreasing to less than 8 gpm for years 10 through 30) and will have no significant hydrologic impact in the channel.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Project construction activities are time-limited and no native migratory fish or wildlife species or migratory corridors have been identified at the project site. Therefore, project activities will have no significant effect on fish or wildlife migration.

e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

No local policies or ordinances protecting biological resources are known to apply to activities at MCAS Tustin.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No habitat conservation plans or provisions currently apply at MCAS Tustin

References:

CDFG, 2002
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ■ No Impact

5. Cultural Resources

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Previous archaeological surveys, geotechnical log borings from drilling efforts for local wells, and record searches reveal evidence of paleontological resources beneath MCAS Tustin. Formations from the Pleistocene (2 million to 10,000 years ago) and Recent (10,000 years ago to present) period are identified as having moderate to high sensitivity for paleontological resources. At MCAS Tustin, these sediments occur between the site surface and 280 feet in depth. These formations correlated to the 30 feet of Holocene alluvium and 250 feet of older alluvium. The fossil-bearing formation underlies virtually all of MCAS Tustin. No archaeological sites are known to occur at the project location. Human remains are not known to occur at the project location. However, two blimp hangars, Building 28 (near IRP-12) and Building 29 (near IRP-3) are included in the National Register of Historic Places. In addition, two helium tank building, Buildings 28A and 29A, blimp Mooring Mats 1-5, a connecting road to mats 1-3, and a connecting road to mats 4 and 5 are also included in the historic district designation. Since Buildings 28A and 29A are contributing elements to a National Register of Historic Places eligible district, it is a historical resource pursuant to CEQA Guidelines section 1504.5(b)(2)(c).

Analysis of Potential Impacts:

Section 4.6. of the Final EIS/EIR states that the State Historic Preservation Office (SHPO) concurred with the assessment that the former Air station has been adequately surveyed. The surveys of the former Air Station resulted in the recording of only one site (CA-ORA-381) which was located in the northwestern part of the former Air Station near Red Hill Avenue. The Final EIS/EIR states that this site (CA-ORA-381) is not considered significant due to its lack of integrity, and that implementation of the Reuse Plan would not have been adverse affect on the known archaeological resource.

The Final EIS/EIR also states that due to the presence of shells on the Base, it is possible that buried archaeological resources exist at the site and that these resources could be potentially impacted during excavation activities. DTSC will insure that the work plan for the excavations will include provisions for retaining a county-certified archaeologist, and a county-certified paleontologist. If buried resources and/or

human remains are found during excavation at the site, county-certified archaeologist will need to assess the site significance and perform the appropriate mitigation Native American view point will be also considered during this process If burials are discovered, the Orange County Sheriff-Coroner Department will be contacted and requested to be present during removal of human remains pursuant to Section 2050.5 of the California Health and Safety Code. If remains are determined to be prehistoric, the Native American Heritage Commission (NAHC) will be notified. The NAHC will then designate a most likely descendant (MLD).

Soil contamination may extend beneath Building 29A and soil hotspots may be excavated adjacent to Building 29A. Since Building 29A is included in the historic district designation it will be protected in place during excavation activities (e.g. shoring). No excavation is proposed near Building 28A (IRP-12). In addition, no soil excavation activities are proposed at Buildings 28 and 29. The DON will coordinate with the State Historic Preservation Office (SHPO) to minimize project impacts to any buildings eligible for listing or listed in the National Register of Historic Places, or address issues associated with buildings included in the historic district

Describe to what extent project activities would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.

   While no project activities are proposed near buildings listed on the National Register, Building 29A is included in the historic district designation and it will be protected during excavation activities. The DON will coordinate with the State Historic Preservation Office to minimize project impacts to any buildings listed in the National Register of Historic Places, and address issues associated with buildings included in the historic district.

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.

   No archeological resources have been identified at or near the project site. Therefore, project activities will not cause any substantial adverse change in the significance of an archeological resource. However, it is possible that buried archaeological resources exist at the sites and that these resources could be potentially impacted during excavation. DTSC will insure that the work plan for the excavations will include provisions for retaining a county-certified archaeologist and a county-certified paleontologist. If buried resources and/or human remains are found during excavation at the site, county-certified archaeologist will need to assess the site significance and perform the appropriate mitigation.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

   Potentially fossil bearing formations are known to underlie the project location; however, the proposed project is not expected to encounter significant pale ontological resources. Navy will retain a county-certified paleontologist to conduct salvage excavation of unique paleontological resources if they are found.

d. Disturb any human remains, including those interred outside of formal cemeteries.

   Human remains are not known to occur at the project location. If human remains are unearthed, field work will be stopped, and the Orange County Sheriff-Coroner Department will be contacted and requested to be present during removal of human remains pursuant to Section 2050.5 of the California Health and Safety Code. If remains are determined to be prehistoric, the Native American Heritage Commission (NAHC) will be notified. The NAHC will then designate a most likely descendant (MLD).

References:

BNI, 2002
Tustin, et al., 1999

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

6. Geology and Soils

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

MCAS Tustin ranges in elevation from 45 feet to 60 feet above sea level with relatively flat topography. The site it approximately 9 miles inland from the Pacific Ocean and man-made drainage channels carry local stormwater and treated effluents west to the ocean.

The surface soil in the project site area has been mapped as Chino silty clay loam (drained). Approximately 1,400 feet of unconsolidated to semi-consolidated sediments underlie MCAS Tustin and consist of approximately 30 feet of Holocene (recent) alluvium underlain by 250 feet of older alluvium. This is further underlain by an alluvial layer approximately 1,100 feet thick, consisting of semi-consolidated sand gravel and fine-grained lagoon and shallow marine deposits. Older bedrock units of semi-consolidated sandstone, siltstone, shale, and conglomerate lenses underlie this sequence. The older units are approximately 2,000 to 2,500 feet thick.

MCAS Tustin lies within a region of Southern California which is known to be seismically active. Three faults closest to MCAS Tustin are the Newport-Inglewood Fault located 10 miles southwest, the Whittier Fault located 14 miles northeast, and the Elsinore Fault located 14 miles east. At MCAS Tustin, the primary potential earthquake hazard is ground shaking. MCAS Tustin also lies within a liquefaction hazard zone as mapped by the California Division of Mines and Geology. Landslides have not been identified at MCAS Tustin and are not considered likely to occur in the future due to the relatively flat topography of the site and surrounding region. Compressible soils susceptible to some consolidation and expansive soils with high to very high expansivity may also be encountered at MCAS Tustin on a site-specific basis due to variations in near-surface sediments.

Analysis of Potential Impacts:

Although the proposed project is located in an area with potential for compressible and expansive soils and where seismic ground shaking and liquefaction is possible, the extraction and treatment system will be equipped with secondary containment and appropriate automatic shutoff valves to prevent tank overflows should the transfer pump fail. Additionally, surge tanks will be connected to the extraction wells to contain extraction groundwater in the event that the treatment system becomes inoperable. Excavations will be shored as necessary. Backfilled excavation areas will also be compacted to prevent erosion and dust.

The proposed project will also generate effluent from the treatment system that will be discharged to the Peters Canyon Channel. Peters Canyon Channel is an unlined drainage ditch, traversing MCAS Tustin from Edinger Avenue to Barranca Parkway. Since the treated groundwater will be discharged through a storm drain to Peters Canyon Channel, the proposed project will not result in substantial soil erosion or the loss of topsoil.

Describe to what extent project activities would:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Publication 42)

  The project site is not located within an Alquist-Priolo Earthquake Fault Zone, and no active or potentially active fault is known to exist at the ground surface in, or immediately adjacent to, the site.

- Strong seismic ground shaking

  While MCAS Tustin lies within a region of Southern California which is known to be seismically active and strong ground shaking is possible in the event of a major earthquake, the main project activities (demolition, construction, excavation, etc.) are very time-limited and will not expose people to seismic risks over and above those normal for living in this southern California region.

- Seismic-related ground failure, including liquefaction

  As with seismic-related ground shaking, ground failure in the project area is possible in the event of a major earthquake. However, the main project activities (demolition, construction, excavation, etc.) are very time-limited and will not expose people to seismic risks over and above those normal for living in this southern California region.

- Landslides

  Landslides in the project area are not anticipated because land in the project area is nearly level and no steep mountain areas are near the site.

b. Result in substantial soil erosion or the loss of topsoil.

All excavations will be backfilled and appropriately compacted to prevent loss of topsoil and soil erosion. Therefore, project activities will not result in substantial soil erosion or loss of topsoil.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Although the proposed project is located in an area with potential for compressible and expansive soils and where seismic ground shaking and liquefaction is possible, project activities will not add significant weight or water to cause soil to become unstable and slide, spread, subside, liquefy, or collapse. All excavations will be shored as necessary to prevent collapse. Backfilled excavation areas will also be compacted to prevent subsidence.

d. be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Expansive soil may be encountered in the project area on a discontinuous, site-specific basis. However, soil excavations and construction activities will be time-limited and done according to appropriate construction best management practices and OSHA worker safety requirements so there should be no substantial risks to life or property from project construction activities. In addition, since the long-term groundwater treatment system will be an un-manned, small pumping system, operation of the system will not create any substantial risks to life or property due to possible expansive soil in the project area.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of water.

Soils in the project area have not been shown to be incapable of supporting temporary holding tanks or treatment equipment to be used during project activities. No septic tanks will be utilized for project activities and disposal of water will be done via existing stormwater culverts.

References:

BNI, 2002
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

7. Hazards and Hazardous Materials

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

OU-1B is composed of groundwater contamination at IRP-3 and IRP-12. IRP-3 (Paint Stripper Disposal Area) occupies approximately 1.4 acres in the center of MCAS Tustin and associated TCE groundwater plume underlies approximately 10.5 acres in the first WBZ and 3 acres in the second WBZ. IRP-3 is associated with former industrial area of the base that is presently vacant. IRP-12 (Drum Storage Area No. 2) occupies a total area of about 3.5 acres in the northwestern portion of MCAS Tustin and associated groundwater plume underlines approximately 10 3 acres in the first WBZ and 1 acre in the second WBZ. The site was used by the Marine Corps primarily for materials storage and warehouse functions.

Analysis of Potential Impacts:

Short-term risks may occur to workers during excavation, handling, and treatment of contaminated soils at the two OU-1B sites. Workers involved in these activities may also exposed to contaminated groundwater because the excavations would extend below the water table. A Health and Safety Plan (HSP) and remedial action work plan will include procedures to minimize short-term risks to workers and public safety during soil excavation, and soil preparation.

The purpose of the HSP is to describe the controls and procedures that will be implemented to minimize any incidents, injury, and health risks associated with project activities. The HSP will be prepared according to Occupational Safety and Health Agency (OSHA) and hazardous waste management requirements. Elements to be addressed in the HSP include:

- General descriptions of the project site, including location and site plans.
- Work objectives.
- A hazard evaluation, including characteristics of known or expected site or work hazards.
- Names of key personnel and their designees, for site health and safety, and the site safety coordinator.
- Statements from any remediation contractor that site personnel have completed training in accordance with 29CFR1910 120 and 8CCR5192 (General Industrial Safety Order).
- Medical surveillance requirements.
- Personal protective equipment (PPE) to used by site personnel, for each task of work and type of operation.
- Decision criteria to be used in determining levels of PPE.
- The types and frequency of personal and area air monitoring, instrumentation, and sampling techniques for health and safety monitoring.
- Site control measures, including designation of work zones.
- Decontamination procedures for personnel and equipment.
- Noise control procedures and action levels.
- Dust control procedures and action levels.
- Description of how wastes generated during project will be managed

Along items identified in the HSP, appropriate engineering and administrative controls at the project site will be instituted, such as dust suppression measures, perimeter monitoring, traffic-safety planning, spill prevention, and contingency planning.

Overburden soil (clean soil) will be used to backfill the excavations.

The groundwater extraction and treatment system will be equipped with secondary containment and appropriate automatic shutoff valves to prevent tank overflows should the transfer pump fail. Additionally, surge tanks will be connected to the extraction wells to contain extraction groundwater in the event that the treatment system becomes inoperable. During the operation of the system, actual threat of fire or explosions is considered to extremely remote, as the groundwater treatment system will utilize self-contained granular activated carbon vessels to absorb contaminants from extracted groundwater as it pumped through the system.

Hazardous substances, in the form of soil cuttings and well development groundwater, generated during the instillation of the extraction wells will be managed in accordance with state and federal laws and regulation. All wastes to be transported offsite will be placed in Department of Transportation approved storage containers and transported to a permitted facility for treatment, storage and/or disposal.

Regeneration or disposal of spent carbon will be the responsibility of the GAC supplier under a long-term service contract. It is anticipated that spent GAC will be transported off-site for regeneration. Prior to shipment from the project site, the spent carbon will be tested to determine the applicable waste classification (nonhazardous, RCRA hazardous, and/or non-RCRA hazardous). Characterization, packaging, and transport of this material will be in accordance with the United States Department of Transportation, EPA and DTSC requirements.

Describe to what extent project activities would:

a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

Project activities will not create a significant hazard to the public due to routine transport, use, or disposal of hazardous materials because the project will use, treat and manage hazardous material and hazardous waste in accordance with all applicable waste management requirements as well as worker safety requirements. In addition, the truck route used to dispose contaminated soil is an established truck route currently used by developers that avoids sensitive areas such as schools and residential areas.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The project will utilize and institute hazardous materials and hazardous waste spill response plans and preventative measures, such as secondary containment, to control any upsets and accidents involving hazardous materials. Given the nature of the project, types of contaminants, and project controls to be enacted onsite, no significant hazard to the public or the environment is expected from project activities.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.

The project site is currently unoccupied and the closest residential area is approximately one half mile away; therefore onsite management of hazardous wastes, materials, or emissions will not impact existing schools. Since project construction activities are time-limited, management of hazardous waste, materials, or emissions will not impact proposed schools. Traffic from trucks carrying project-related hazardous waste will not impact existing schools.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to public or the environment.

While MCAS Tustin as a whole is included on the Department of Toxic Substances Control CalSite database pursuant to Government Code Section 65962.5 due to active site status and remediation agreements, it is not an NPL listed site. This proposed project will not create a significant hazard to the public or environment due to its location on a site included in the CalSite database.

e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

Project activities will not impair implementation or physically interfere with existing emergency response or evacuation plans. All project activities will be conducted consistent with project emergency response plans as well as any base-specific or local emergency response plans

References:

BNI, 2002

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

8. Hydrology and Water Quality

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The hydrogeology at MCAS Tustin is divided into the shallow and regional aquifers. The shallow aquifer is located approximately 10 to 110 feet bgs in the vicinity of IRP-3 and IRP-12. The regional aquifer is first encountered at approximately 100 feet bgs and extends several hundred feet bgs.

The shallow aquifer at IRP - 3 and IRP - 12 is divided into three WBZs. The first WBZ extends from 10 to 35 feet bgs, the second from 35 to 90 feet bgs, and the third from 90 to 110 feet bgs. An upper confining layer of silty clay that is approximately 6-8-feet thick is located between the vadose zone and permeable sand of the first WBZ.

In general, shallow groundwater is locally confined in laterally discontinuous, interfingering lenses of sand and gravel, which are about one to five feet thick. Massive silt and clay separate the sand and gravel lenses. Field data show that the first and second WBZs are hydraulically interconnected. The third WBZ appears to be hydraulically separated from the second WBZ across much of MCAS Tustin. The third WBZ is also an apparent transition zone between the shallow aquifer at MCAS and the underlying regional aquifer. Groundwater generally flows towards the south and southwest in both the first and second WBZs at IRP Sites 3 and 12. Groundwater in the third WBZ generally flows toward the southwest with some localized variability.

The regional aquifer is a primary source of drinking and irrigation water. Basewide, an aquitard composed of a continuous stiff clay layer appears to effectively limit hydraulic communication between the shallow and regional aquifers. This clay layer ranges from 10 to 30 feet thick across most of the facility. Groundwater in the regional aquifer generally flows southwesterly towards the Pacific Ocean, with local pumping depressions nested around several extraction well fields within the groundwater basin

Based on measurements from three basewide regional aquifer monitoring wells, the vertical gradients between the shallow and regional aquifer are generally downward.

Groundwater contamination originating at IRP-3 has been identified in the first and second WBZs to a maximum depth of about 40 feet bgs. There is no evidence, either from the RI or subsequent groundwater monitoring at MCAS Tustin, that TCE contamination from IRP-3 has impacted the third WBZ or the regional aquifer. TCE concentrations ranged from 10 µg/L to a maximum of 1,742 µg/L in RI samples and approximately 3,000 µg/L in SI samples. More recent data show that TCE concentrations have stabilized at 1,200 to 1,700 µg/L in the plume core.

TCE is the principal VOC released to groundwater from the contaminated soil source areas at IRP-12. Groundwater contamination has been identified in the first and second WBZs to a maximum depth of 50 feet bgs. There is no indication from the RI or subsequent groundwater monitoring events that TCE releases from IRP-12 have impacted either the third WBZ or the regional aquifer. Two groundwater plumes have been identified.

Other than drainage channels, there are no significant surface water bodies located near MCAS. Surface water drainage in the area is controlled by the local topography and man-made drainage facilities. MCAS Tustin lies at the eastern edge of a broad coastal plain that gently slopes south toward the Pacific Ocean (about 9 miles away). Three drainage channels, the Santa Ana-Santa Fe Channel, Peters Canyon Channel, and the Barranca Channel, are located in or adjacent to the base. Stormwater either naturally penetrates the ground or enters surface water conduits, such as the channels.

Surface and ground water quality and beneficial uses in the area are regulated by the Santa Ana RWQCB. The Santa Ana RWQCB implements federal, state, and local water quality requirements, including federal NPDES permits. However, stormwater NPDES requirements at MCAS Tustin are regulated by the Cities of Tustin and Irvine according to municipal stormwater permits. Orange County Flood Control District also has requirements for discharges into the storm drain system to protect system components, prevent erosion, and control sediment.

Analysis of Potential Impacts:

Potential surface water impacts from project construction activities will be controlled through a variety of construction best management practices. Construction dewatering is also anticipated to be necessary, the excavation is planed below the water table to the top of the sand layer in the first WBZ. The water pumped out of the excavations would stored in Baker-type tanks and treated using mobile GAC units. Soil excavation will be backfilled and compacted to existing grade and therefore, the project will not alter the existing surface water drainage in the area.

Protections of surface waters from runoff and construction discharge will include the following project controls identified by Orange County.

i. Sediment from areas disturbed by construction shall be retained on site using structural controls to the maximum extent practicable.

ii. Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to the streets, drainage of facilities or adjacent properties via runoff, vehicle tracking, or wind.

iii. Appropriate Best Management Practices (BMP's) for construction-related materials, wastes, spills or residues shall, be implemented to minimize transport from the site to streets, drainage facilities, or adjoining properties by wind or runoff.

iv. Runoff from equipment and vehicle washing shall he contained at construction sites unless treated, to reduce or remove sediment and other pollutants.

v. All construction contractor and subcontractor, personnel are to be made aware of the required best management practices and good housekeeping measures for the project site and any associated construction staging areas.

vi. At the end of each day of construction activity, all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins

vii. Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Dischargers other than stormwater (non-stormwater discharges) are authorized under California's General Permit for Storm Water Discharges Associated with Construction Activity only where they do not cause or contribute to a violation of any water quality standard and are controlled through implementation of appropriate BMPs for elimination or reduction of pollutants. Non-stormwater discharges must be eliminated or reduced to the extent feasible.

Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, solvents, detergents, glues, lime, pesticides, herbicides, fertilizers, wood, preservatives, and, asbestos, fibers, paint flakes or stucco fragments; fuels, oils, lubricants and hydraulic, radiator or battery fluids; concrete and related cutting or curing residues; floatable wastes, wastes from any engine/equipment steam cleaning or chemical degreasing; wastes from street cleaning; and super chlorinated potable water line flushing and testing. During construction, disposal of such materials should occur in a specified and controlled temporary area on-site physically separated from potential stormwater runoff, with ultimate disposal in accordance with local, state and federal requirements. Discharging contaminated groundwater produced by dewatering groundwater that has infiltrated into the construction site is prohibited. Discharging of contaminated soils via surface erosion is also prohibited.

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient or lateral migration.

Underneath MCAS Tustin, the shallow groundwater is controlled by the three main drainage channels surrounding the base, which intersect the shallow groundwater table and act like dewatering trenches. As a result, the shallow groundwater flows toward the drainage channels. The drainage channels, however, do not have an any influence on the deeper, regional aquifer. The shallow aquifer is generally not used for potable water and is hydraulically separated from the regional aquifer.

The project will generate effluent from the groundwater treatment system that will be discharged to the Peters Canyon Channel. Peters Canyon Channel is an unlined drainage ditch, traversing MCAS Tustin from Edinger Avenue to Barranca Parkway. The project would discharge approximately 24 gpm of treated water for the first 10 years of operation and about 8 gpm of treated water for years 10 to 30 operation. The DON has reviewed the need to obtain an NPDES permit for the discharge of treated water into Peters Canyon Channel and has determined that such a permit would be unnecessary. The groundwater treatment system associated with this project will be operated entirely onsite as defined under CERCLA and NCP. The treated groundwater will be discharged into an onsite storm drain emptying into Peters Canyon Channel, where it will ultimately discharge into water of the United States at an offsite location. The EPA has consistently maintained that the migration of treated water beyond site boundaries (after the response action has treated the water so that it complies with applicable or relevant and appropriate requirements (ARARs)) is consistent with the onsite permit exclusion in Section 121(e) of CERCLA and does not constitute an "offsite" response action that must obtain an NPDES permit.

However, the DON and the RWQCB currently disagree on whether or not the Navy should apply for a NPDES discharge permit for the discharge of treated groundwater from OU-1B. The RWQCB views the discharge as an off-site discharge requiring a permit. In addition, since MCAS Tustin is not a National Priority List (NPL) site, there is some disagreement as to whether or not Section 121 of CERCLA applies to this facility Consequently, the RWQCB will mostly likely issue an NPDES permit for discharge of

treated groundwater and not an NPDES permit for storm water discharge (The prior basewide Industrial Storm Water Permit for MCAS Tustin was rescinded in 2001).

In any event, the DON will assure that the discharge of treated groundwater complies with applicable ARARs as provided by Section 121 of CERCLA and the NCP, including the MCLs, beneficial uses and water quality objectives of the Santa Ana RWQCB. The DON will achieve compliance with the ARARs and other objectives by regularly monitoring the influent and effluent of the treatment system. Details of the monitoring will be developed as part of the remedial design phase. The groundwater subcontractor will be responsible for documentation of the onsite treatment activities. This documentation will include a summary report detailing groundwater quantities removed, treated, and discharged; discharge flow rates; the number and types of samples collected; and the results of any analyses. In addition, Orange County Flood Control District/encroachment permit for discharge of treated water into storm drainage system will be obtained.

On June 14, 2002, the US Environmental Protection Agency promulgated a Total Maximum Daily Load (TMDL) for Toxics for the Newport Bay and San Diego Creek watersheds, including the Peters Canyon Wash drainage. The TMDL implements relevant water quality objectives including the California Toxics Rule (CTR) criteria. The groundwater in the project area contains selenium, one of the toxic substances regulated under the TMDL. Pursuant to the TMDL and the CTR, the RWQCB will require the Navy to comply with a discharge limitation of five micrograms selenium per liter (5 µg/L) for discharges to Peters Canyon. New discharges from sites IRP 12 and IRP 3 (OU-1B) will be required to meet the discharge limit of 5 µg/L at startup.

The nutrient TMDL specifies load allocations for total nitrogen inputs to the San Diego Creek/Newport Bay watershed from "undefined sources", which include groundwater cleanup project discharges. The load allocations require a reduction in total nitrogen input from these discharges of 50% in the summer (April - September) by 2007 and a 50% reduction in the winter (October - March) input by 2012. The TMDL specifies that the Regional Board may require earlier compliance where it is feasible and reasonable. The Navy will be required to submit a plan for approval by the Regional Board's Executive Officer that identifies the method(s) and schedule by which they propose to achieve a 50% reduction in the total nitrogen in their discharges. The schedule is to reflect the shortest practical time necessary to achieve the 50 % reduction, but in no case extend beyond January 1, 2007.

Prior to discharge of the treated groundwater to the Peters Canyon Channel, the Navy shall demonstrate that the discharge meets the requirements of the RWQCB. Any discharges for which an NPDES permit is not obtained, the Navy shall submit an alternative proposal to DTSC for the treatment or disposal of treated groundwater within 60 days

The 2002 Clean Water Act Section 303(d) List identifies the San Diego Creek and Upper Newport Bay as impaired by elevated concentrations of metals, pesticides and nutrients from urban runoff, agriculture and unknown nonpoint sources. Although discharge of groundwater from the project area into the Peters Canyon Channel (that leads to the Upper Newport Bay) could potentially impact this sensitive environmental area, compliance by the Navy with the NPDES requirements issued by the RWQCB will protect this watershed area and reduce impacts to less than significant.

To prevent use of contaminated groundwater before remediation goals are met, the DON will use institutional controls (such as property deed restrictions) to restrict future use of contaminated groundwater, allow access to extraction/monitoring wells and treatment systems components, and protect wells and other equipment installed at MCAS Tustin. The access provisions are necessary to ensure that the DON and regulatory agencies can maintain and monitor remediation of groundwater at the site.

Describe to what extent project activities would:

a. Violate any water quality standards or waste discharge requirements.

All discharges of groundwater or waste will be done in accordance with local water quality standards so no violations are expected

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Groundwater supplies in the area are pumped from the regional aquifer which is hydraulically separated from the shallow ground water zones. Since the project will only produce water from the shallow zones, the project will not impact groundwater supplies or recharge in the area. In addition, production rates from the shallow groundwater extraction wells will be low and will not significantly impact shallow water zones offsite.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

Project construction activities do not involve alteration of the course of a stream or river. In addition, soil excavation areas will be backfilled and compacted to existing grade and therefore, the project will not alter the existing surface water drainage in the area.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.

Project construction activities do not involve alteration of the course of a stream or river. In addition, soil excavation areas will be backfilled and compacted to existing grade and therefore, the project will not alter the existing surface water drainage or cause flooding in the area.

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The 24 gpm treated groundwater discharge into the storm drain system is extremely small compared to the design capacity of the storm drain system, and therefore project discharges will not exceed the capacity of the system or add substantial new sources of polluted runoff.

f. Otherwise substantially degrade water quality.

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient or lateral migration. The remediation of shallow groundwater at the project sites will help improve water quality in the area.

g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.

The project site is not located within a 100-year flood zone.

h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Peters Canyon and Rattlesnake reservoirs currently are the only confined water bodies upstream of the project site. Flooding associated with failure of the reservoir dams would not significantly impact the project site due to distance from the source and low water volumes.

i. Inundation by sieche, tsunami or mudflow

The project site is located approximately 9 miles inland from the Pacific Ocean and does not lie within an area of tsunami run-up risk. In addition, no lakes, confined bodies or water, or steep mountains are located near the project site so there is no risk from sieches or mudflows.

References:

BNI, 2002

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

9. Land Use and Planning

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.
- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

Description of Environmental Setting:

OU-1B is composed of groundwater contamination at IRP-3 and IRP-12.
IRP-3 (Paint Stripper Disposal Area) occupies approximately 1.4 acres in the center of MCAS Tustin and associated TCE groundwater plume underlies approximately 10.5 acres in the first WBZ and 3 acres in the second WBZ. IRP-3 is associated with former industrial area of the base that is presently vacant

IRP-12 (Drum Storage Area No. 2) occupies a total area of about 3.5 acres in the northwestern portion of MCAS Tustin and associated groundwater plume underlines approximately 10.3 acres in the first WBZ and 1 acre in the second WBZ. The site was used by the Marine Corps primarily for materials storage and warehouse functions.

MCAS Tustin is currently zoned "MCAS Tustin Specific Plan (SP)". However, since closure of the base, new plans for viable and balanced reuse of base properties are currently being considered. IRP-3 is located within reuse parcel 16 that is planned for community core. The proposed future land use in and around IRP-3 will also include construction of roadways and underground utilities. IRP-12 is located within reuse parcel 18 that is planned for urban Regional Park. Plume 12E extends from the IRP-12 source areas onto Parcel No. 16, which is listed for redevelopment as "community core", and the western corner of Parcel 17 (public schools).

Analysis of Potential Impacts:

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient migration. VOC remediation goals

for the project are conservatively established at federal and/or state drinking water MCLs to allow unrestricted future use of the site once cleanup goals are achieved Institutional controls will be placed on use of water from the contaminated shallow groundwater zones until VOC remediation goals are met. This is consistent with existing land use designations, as well as proposed base reuse designations, in the project site areas. Since projects activities are consistent with existing and future land use plans, impacts from the project will be less than significant. DTSC will make a determination on the necessity of additional environmental analysis should any changes to land use restrictions be requested in the future. Institutional controls are a prerequisite for the lease of this land prior to the attainment of remediation goals to protect public health and the environment.

Describe to what extent project activities would:

a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

   The proposed project is being undertaken to remediate VOC-contaminated soil and groundwater and is consistent with applicable environmental mitigation project requirements.

b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

   The existing project site consists of highly disturbed commercial and industrial use property and site future use plans do not include habitat or natural community conservation requirements.

References:

BNI, 2002
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

10. Mineral Resources

Project activities likely to create an impact:

None

Description of Environmental Setting:

The project site is located in a predominantly urbanized area that includes residential, industrial, commercial, and minor agricultural uses. There are no known mineral recovery operations or occurrences of mineral resources at the site, under the site, or in the area around the site. In addition, while petroleum resources are common in the Los Angeles Basin, no existing or potentially recoverable energy resources (such as oil, natural gas, oil shale, or geothermal) are known to exist at or under the site.

Analysis of Potential Impacts:

Since mineral resources are not known to occur within the project area, the proposed project will not result in a loss of availability of any state, regional, or locally-important mineral resources or mineral resource recovery sites. Therefore, no further analysis is necessary.

Describe to what extent project activities would:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

   See analysis above.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

   See analysis above.

References:

Tustin, et al., 1999

California Department of Conservation, California Geological Survey (formerly the Division of Mines and Geology) website, www.consrv.ca gov/dmg.

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ■ No Impact

11. Noise

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The proposed project is located in an industrial area of MCAS Tustin that is currently unoccupied. The nearest residences are located approximately one half mile away (over 2,500 feet) from the project sites.

The existing major noise sources at and near MCAS Tustin are motor vehicles and the railroad. (There are currently no aircraft operations at MCAS Tustin.) Noise from trains, combined with noise from vehicular traffic on Edinger Avenue generated an average noise level of about 70 decibels (dB) Community Noise Equivalent Level (CNEL) at the MCAS Tustin northern boundary.

The City of Tustin has noise standards limiting construction activities Monday through Friday between the hours of 7 a.m. and 6 p.m. and Saturdays from 9 a.m. to 5 p.m.. No construction noise is allowed on Sundays or city-observed federal holidays.

The City of Irvine limits construction noise to 7 a.m. to 7 p.m. Monday through Friday, and 9 a.m. to 6 p.m. on Saturday. No construction noise is allowed on Sundays or city-observed federal holidays.

The City of Santa Ana limits construction noise to between the hours of 7 a.m. and 8 p.m., Monday through Saturday. No construction noise is allowed on Sundays or city-observed federal holidays.

Analysis of Potential Impacts:

Short-term construction noise is anticipated at IRP-3 and IRP-12 as a result of project activities. The duration of the construction activities is not anticipated to last beyond six months of intermittent operations. Equipment used for construction will include trucks, a backhoe, drilling equipment and other heavy equipment. According to EPA studies (EPA publication 206717, Noise from Construction Equipment and Operations, December 1971) of equipment types and activities, construction noise is predicted to range from approximately 70 dB to 95 dBA at 50 feet from its source. Typically, construction noise decreases 6 dB with each doubling of distance from the noise source to the receptor (i.e., 6-dB

decrease at 100 feet, and 12-dB decrease at 200 feet). In addition, offsite traffic noise is not expected to increase significantly because excavated soil and demolition debris is expected to be reused onsite, so that transport of wastes or materials to or from the site will be minimal.

Currently, the closest sensitive receptors (residences) are located approximately half mile (2500 feet) from the project sites; therefore, short-term noise from the project construction activities will not pose a significant impact to sensitive receptors. The construction activities will be limited to normal working hours (generally 8 a.m. to 5 p.m., Monday through Friday). All on-site employees will be required to wear ear protection devices if noise levels are above 80 dBA

Since the nearest residences are approximately 2,500 feet from the project sites, they will not be exposed to increased noise resulting from the long-term operation of the ground water extraction and treatment system at IRP - 12. The only noise source at the treatment will be a transfer pump that operates intermittently. The system pump will be small, so noise levels will be low. Appropriate engineering controls for noise will also be considered during the remedial system design phase to reduce noise impacts to any future development in or around the groundwater extraction and treatment system.

Describe to what extent project activities would:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

   Project construction activities will be limited to normal business hours (Monday through Friday, 8 a.m to 5 p.m.). This is consistent with the noise standards established by the three cities (Tustin, Irvine, and Santa Ana) surrounding former MCAS Tustin.

b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels

   Large truck movement off the project site will be minimal, so persons other than project construction workers will not be exposed to significant groundbourne vibration or noise. All onsite workers will be required to wear ear protection if noise levels are above 80 dBA.

c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.

   Implementation of the proposed project will result in temporary (approximately 6 months of intermittent activity) increases in noise levels due to demolition, excavation and drilling activities. Noise level increases from long-term operation of the groundwater extraction and treatment systems will be minor due to treatment system pump size limits.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

   The project site is currently unoccupied and the closest sensitive receptors are approximately one half mile away. While project construction activities will generate a temporary increase in noise levels at the project site, increases to ambient noise levels in areas offsite will not be significant because the project generated noise will decrease to within average levels due to distance.

References:

BNI. 2002
Tustin, et al , 1999

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

12. Population and Housing

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The project is located in an unoccupied section of MCAS Tustin, which is currently a closed military base No housing or occupied structures are located at the two project sites, IRP-3 and IRP-12

Analysis of Potential Impacts:

All project activities, including soil excavation, installation of the extraction and treatment system, and long-term system monitoring, will require no additional permanent staff; therefore, there will be no increased demand for housing. The project will require small numbers (less than 10 at any given time) of contract workers for specific tasks that will be of short duration during construction and operation of the system. Therefore, the proposed project will not impact population or housing in the area and no further analysis of impacts is deemed necessary.

Describe to what extent project activities would:

a. Induce substantial population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

   See analysis above.

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

   See analysis above.

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

   See analysis above.

References:

BNI, 2002

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ❑ Less Than Significant Impact
- ■ No Impact

13. Public Services

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The project site is currently unoccupied and is located in an area where fire protection and emergency medical services are provided by the Orange County Fire Authority and library services are provided by the County of Orange. The City of Tustin and its contractors provide additional public services. The City of Tustin provides police protection and school facilities are provided by the Tustin Unified School District The County of Orange or City of Tustin provides parks and recreation facilities (including recreation bikeways and trails).

Analysis of Potential Impacts:

MCAS Tustin is fenced and the treatment systems will also be fenced to prohibit entry by unauthorized persons. The actual threat of fire or explosions is considered to be extremely remote, as the long-term groundwater treatment system will utilize self-contained granular activated carbon vessels to adsorb contaminants from extracted groundwater as it is pumped through the system. However, in the event of a fire, a fire extinguisher will be located at the treatment facility and the system will have automatic shut-off switches in the case that the system overheats. Additionally, DON representatives will inspect and maintain project equipment on a regular basis.

Implementation of the project construction activities will involve a limited number of workers onsite intermittently over a 6 month period during daylight hours. These workers should not require additional public services. In the event of an accident onsite, workers may need to use emergency medical assistance or local medical facilities. However, if an accident were to occur, it would be an isolated incident and would not create a significant impact on existing public services.
Describe to what extent project activities would:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain

acceptable service ratios, response times or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

The project will use only a limited number of personnel onsite intermittently for 6 months and for routine system maintenance/monitoring Consequently, no personnel will need to relocate to the area and impacts to fire, police, schools, parks, or other public facilities will be less than significant.

References:

Tustin, et al., 1999

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

14. Recreation

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The project site is currently unoccupied and does not include any recreational facilities. The County of Orange or City of Tustin is responsible for parks and recreation facilities (including recreation bikeways and trails) in the project area.

Analysis of Potential Impacts:

The project will use only a limited number of personnel onsite intermittently for 6 months and for routine system maintenance/monitoring. Consequently, no personnel will need to relocate to the area or have need of recreational facilities. Therefore, the proposed project will have no impact on recreation in the area, and no further analysis is necessary.

Describe to what extent project activities would:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

   See analysis above.

b Include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

   See analysis above.

References:

BNI, 2002

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ■ No Impact

15. Transportation and Traffic

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Regional access to MCAS Tustin is provided by the following arterials:

- Interstate 5 (I-5), also know as the Santa Ana Freeway, to the north.
- State Route 261 (SR-261), also known as the west leg of the Eastern Transportation Corridor (toll), to the north in the vicinity of the intersection of Jamboree Road and Walnut Avenue.
- State Route 55 (SR-55), also known as the Costa Mesa Freeway, to the west
- Interstate 405 (I-405), also known as the San Diego Freeway, to the south.

Two gates currently provide local access to MCAS Tustin, one from Red Hill Avenue at Valencia Avenue/Moffett Drive and the other from Harvard Avenue at Moffett Drive.

State freeways in the area are maintained by the California Department of Transportation (CalTrans). City streets and public toll roads are generally under the jurisdiction of the appropriate city or the Transportation Corridor Agency, an organization formed to plan, finance, construct, and operate Orange County's public toll road system.

Analysis of Potential Impacts:

The project is expected to have a less than significant impact on area traffic because about 10 trucks a day will use the truck route during contaminated soil transport and 11 trucks a day will use the truck route during imported fill transport. The trucks will travel using Moffet Drive, turning right on Harvard Avenue, turning right on Warner Avenue, turning right on Jamboree Road to the Jamboree Road on ramp of Interstate 5.The truck route is an established truck route currently used by developers that avoids sensitive areas such as schools and residential areas. All work performed within the State right-of-way will conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control, including production of a Water Pollution Control Program or Storm Water Pollution Prevention Plan as required. A

limited number of worker passenger vehicles will also be added to traffic to and from the project site intermittently during the 6 months of construction activities.

Once the groundwater extraction and treatment system is in place, however, no additional construction employees will be required at the facility and a contractor will only conduct site visits on a weekly basis. Therefore, any increase in personnel or construction vehicle traffic in the area due to project activities will be less than significant.

Therefore, the project would not:

a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e g., farm equipment).

d. Result in inadequate emergency access.

e. Result in inadequate parking capacity.

f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

As discussed above, since most project-related vehicle traffic will be limited will be minimal and construction activities are temporary, project activities will not result in a significant impact on existing traffic loads, levels of service, emergency access, or parking capacity in the surrounding area. In addition, the project does not include design features or uses incompatible with existing roads and does not conflict with alternative transportation policies, plans, or programs.

References:

BNI, 2002
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

16. Utilities and Service Systems

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres. The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Existing utilities and service systems in or near the proposed project area include water (potable and reclaimed) distribution, sewage collection, storm water drainage, solid waste disposal, electrical service, natural gas distribution, telephone service, and cable television service. The entities and the services they provide are listed below:

- Potable and reclaimed water distribution and sewage collection services: Irvine Ranch Water District
- Storm water drainage and flood control facilities: Orange County Flood Control District
- Solid waste disposal services: Federal Management or Waste Management of Orange County
- Electrical service: Southern California Edison
- Natural gas distribution: Southern California Gas Company
- Telephone service: Pacific Bell
- Cable television service: Cox Communications

Analysis of Potential Impacts:

Electrical power is needed for the groundwater extraction pumps and treatment system equipment. It is anticipated that the groundwater treatment systems would use approximately 124,000 kilowatt hours per year (based on the existing electric use at the time-critical removal action at Site 13S). Compared with the baseline usage of 27.9 million kWh per year during base operation (EIS/EIR), this is an increase of only about 0.5 percent. Since MCAS Tustin is now closed and current energy requirements for the base are minimal, energy usage to run the treatment system will not result in any significant impact on utilities.

The proposed project would discharge approximately 24 gpm of treated water for the first 10 years of operation (and about 8 gpm of treated water for operation years 10 to 30) into a drainage ditch that merges into the San Joaquin Ditch and flows into Peters Canyon Channel. Future storm drains on the former base will be designed to accept large volumes of rain run-off without the potential for ponding.

Therefore, a discharge rate of 24 gpm should not create a significant impact on the carrying capacity of the storm drain system.

Wastes not treated and reused onsite will be disposed off-site by a waste disposal subcontractor. Offsite disposal of asbestos-containing materials may be necessary if these materials are identified during building demolition. However, the volume of asbestos-containing debris from the demolition of two building is likely to be small. Regeneration or disposal of spent carbon from the groundwater treatment system will be the responsibility of the GAC supplier under a long-term service contract. It is anticipated that spent GAC will be transported off-site for regeneration. Prior to shipment from the project site, the spent carbon will be tested to determine the applicable waste classification (nonhazardous, RCRA hazardous, and/or non-RCRA hazardous). Characterization, packaging, and transport of this material will be in accordance with the United States Department of Transportation, EPA and DTSC requirements.

Proposed groundwater wells and treatment system piping will be located to prevent interference with existing utilities. Additionally, California Government Code Section 4216.2 requires that every person planning to conduct any excavation shall contact the appropriate utility regional notification center prior to commencement of excavation activities. This notification is intended to help prevent any impact or disruptions to service and will be required prior to construction of groundwater wells and underground piping.

Describe to what extent project activities would:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

   Discharges of treated groundwater will be made in compliance with the requirements of the Orange County Flood Control District and Santa Ana Regional Water Quality Control Board.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

   Use of water for soil treatment and other project construction activities will be temporary and relatively low volume and discharges to the sanitary sewer will be small because project generated groundwater will be treated onsite and discharged to the storm drains. Therefore, the project will not result in the construction or expansion of water or wastewater treatment facilities.

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects

   The proposed project would discharge approximately 24 gpm of treated water for the first 10 years of operation (and about 8 gpm of treated water for operation years 10 to 30) into a drainage ditch that merges into the San Joaquin Ditch and flows into Peters Canyon Channel. Future storm drains on the former base will be designed to accept large volumes of rain run-off without the potential for ponding. Therefore, a discharge rate of 24 gpm should not create a significant impact on the carrying capacity of the storm drain system or require the construction or expansion of storm water drainage facilities.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

   Prior to closure, MCAS Tustin consumed approximately 1.3 million gallons per day of potable water from Irvine Ranch Water District. Since the base is now closed and project water usage at MCAS Tustin will be significantly less than pre-closure use, no new or expanded water entitlements will be needed to accommodate project activates.

e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

Wastewater discharges to the sanitary sewer will be small because project generated groundwater will be treated onsite and discharged to the storm drains. Therefore, a capacity determination by the local wastewater treatment provider will not be necessary or required.

f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.

Solid waste generated from project activities will be characterized and either reused onsite (if non-hazardous) or sent to an appropriately permitted landfill with capacity to accept the waste. This will ensure that project solid waste disposal requirements are accommodated.

g. Comply with federal, state, and local statutes and regulations related to solid waste.

As noted above, solid waste generated from project activities will be characterized and either reused onsite (if non-hazardous) or sent to an appropriately permitted landfill with capacity to accept the waste. In addition, solid waste identified as hazardous will be segregated, managed, and disposed consistent with applicable federal, state, or local hazardous waste requirements.

References:

BNI, 2002
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

17. Cumulative Effects

Project activities likely to create an impact:

None.

The proposed project includes the extraction and treatment of groundwater contaminated with VOCs, principally TCE. The proposed project will generate effluent from the treatment system that will be discharged to the Peters Canyon Channel. There is no other projects are being considered along with this project.

Description of Environmental Setting:

In addition to OU-1B, MCAS Tustin has four other designated operable units, OU-1A, OU-2, OU-3, and OU-4. The Proposed Plan for OU 1A was completed in August 2003. A draft final ROD/RAP is under development and is scheduled to be issued in May of 2004. The Marine Corps' preferred remedy, Hydraulic Containment with Hot Spot Removal, will be used to treat TCE present in soil and 1, 2, 3 TCP in groundwater. The treatment system for the proposed remedy at OU- 1B is scheduled to begin operation in summer 2006. Cumulative impacts are associated with this project since OU – 1A GAC system will operate in the same time frame. However, the impacts are considered negligible since the major resource electrical power is needed for the groundwater extraction pumps and treatment system equipment. It is anticipated that the groundwater treatment systems would use approximately 100,000 kilowatt hours per year (based on the existing electric use at the time-critical removal action at IRP Site 13-S for the year 2002). Compared with the baseline usage of 27.9 million kWh per year during base operation (EIS/EIR), this is an increase is minimal.

OU-2 consists of three IRP sites (IRP-2, IRP-9 and IRP-13E) and nine AOCs (AD-04, AS-06, AS-08, AST-02, AST-04, MDA-04, MDA-07, MMS-01 and MWA-03). These sites require no further action based on the results of field investigations, current and future conditions, and risk assessments conducted for these sites. The results of the associated risk assessments demonstrate that conditions at these sites and AOCs are protective of human health and the environment. Soil and groundwater at each of the sites and AOCs were evaluated and determined to require no further action due to site-specific releases. However, IRP-9 is located in proximity to VOC plumes originating from OU-1A. Similarly, AS-08, MDA-04 and MDA-07 are located in proximity to VOC plumes originating from OU-1B. Therefore, the groundwater contamination underlying these four sites is being addressed as part of the remedial action for OU-1A and OU-1B, respectively. A CEQA Notice of Exemption (NOE) for the Final ROD/RAP for OU-2 was finalized on September 26, 2000. The State Clearinghouse received the CEQA NOE on September 28, 2000, the same day the ROD/RAP was finalized.

OU-3 has one IRP site (IRP-1) known as the Moffett Trenches and Crash Crew Burn Pits that consist of shallow, unlined landfill trenches and pits. The trenches were used to dispose of municipal and industrial wastes, including paints, oils and solvents. The pits were used to burn liquids (jet propellant fuel, oils, solvents, lacquers and primer) during fire-fighter training exercises. A number of remedial response actions have been conducted at the site, including excavation of contaminated soil, construction of a contaminated groundwater containment wall, construction of a french drain system, quarterly report of groundwater monitoring, and installation of a plastic liner (for the construction of Jamboree Road). A CEQA Negative Declaration (ND) for the ROD/RAP for OU-3 was finalized on April 27, 2001 and forwarded to the State Clearinghouse for final filing on May 16, 2001. DTSC approved and signed a ROD/RAP for Moffett Trenches on December 18, 2001. The ROD/RAP presents the final selected remedial action for the Moffett Trenches and crash Crew Burn Pits site. The major components of the selected remedial action for OU-3 are institutional controls, groundwater and surface-water monitoring, landfill gas monitoring, inspection and maintenance of the containment wall and cover, maintenance of the French drain system and associated sumps, maintenance of monitoring wells and security features, and periodic reviews. In addition, the land use controls include use restrictions, notification procedures, and inspections of physical structures, contingency plans, and five-year reviews.

OU-4-IRP Sites 5, 6, 8, 11, 13W, and 16, and eight AOCs: Two additional AOCs, the Arsenic AOC and Storage Tanks (ST) 16A/B were recently added to OU-4. Additional groundwater sampling at six OU-4 sites was conducted through August 2003 to collect data to revise OU-4 human health risk assessments. A draft Technical Memorandum summarizing sampling results and No Further Action (NFA) at several of the OU-4 sites was released which would become part of OU-4A, and would then proceed directly to the Proposed Plan and ROD/RAP stages. Areas that would require further action to reach closure would become part of OU-4B and would be included in the draft final FFS, which is scheduled for distribution in summer 2005. A Proposed Plan and ROD/RAP for OU-4B will be developed following the completion of the FFS.

Analysis of Potential Impacts:

Cumulative impacts are associated with this project, since the OU – 1A GAC system will operate in the same time frame. However these impacts are considered negligible.

Describe to what extent project activities would:

a. Increase the need for developing new technologies, especially for managing any hazardous or non-hazardous wastes that the project generates.

   Wastes will be remediated using well extraction and pump and treat with GAC. These are established remedial technologies. No significant amounts of any hazardous or non-hazardous wastes are generated

b. Increase the need for developing new technologies for any other aspects of the projects.

   Please refer to the response in item a. There is no need to develop new technologies for the project.

c. Leads to a larger project or leads to a series of projects, or is a step to additional projects. Examples of DTSC projects include Interim Corrective Measures and Removal Actions that are not final remedies for a site or facility.

   This project is anticipated to be the final site remedy. Treated water from the treatment system would be discharged to an on-site culvert emptying into Peter Canyon Channel. The discharge of water to the channel would comply with substantive ARARs for surface water discharges.

d. Alters the location, distribution, density or growth rate of the human population of an area.

   The Project will not alter the location, distribution, density or growth rate of the human population of this area.

e. Affect existing housing, public services, public infrastructure, or creates demands for additional housing.

   The project will not create a demand for additional housing, public services, infrastructure, or create a demand for additional housing.

e. Be cumulatively considerable on the environments with cumulative adverse effects on air, water, habitats, natural resources, etc.

   Combined water discharge from OU 1-A and OU 1-B is anticipated to be approximately 42 gallons per minute. This amount will not overburden the Peters Canyon Channel's capacity. Based on the analysis in the air, biological, cultural, geological, hazards, and utilities sections, there not be adverse effects on the above-listed resources.

References:

BNI, 2002

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact right
- □ No Impact

18. Mandatory Findings of Significance

Project activities likely to create an impact:

- Buildings 40B and 174 will be demolished. The non-asbestos demolition rubble will be used onsite as backfill for soil excavations. Any asbestos-containing materials will be managed according to federal and State requirements and disposed off site at a fully permitted disposal facility authorized to receive asbestos-containing materials.

- Excavate approximately 3,000 cubic yards of contaminated soil from five areas of hot spot source soils that cover 0.4 acres The contaminated soil will be placed directly into trucks and transported to a Class 1 off site facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.

- Backfill excavations with approximately 500 cubic yards of imported sand or gravel from a commercial source and 4,000 cubic yards of clean overburden material from the site.

- Install five groundwater-extraction wells at IRP-3 and four groundwater-extraction wells at IRP-12, and four other groundwater-monitoring wells.

- Construct and install two granulated activated carbon systems for treatment of groundwater, including installation of conveyance piping.

- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer, that eventually flows to Peters Canyon Channel consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.

- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

Description of Environmental Setting:

The project site is located in an urban industrialized region on MCAS Tustin, a military base that was closed in 1999 as part of the federal BRAC Act. The base property is situated on approximately 1,600 acres in central Orange County that is currently zoned for "MCAS Tustin Specific Plan (SP)" use, and development on the base occupies all but 530 acres.

The proposed project consists of remedial actions recommended to address VOC-contaminated soil and groundwater identified on MCAS Tustin at the two OU-1B sites known as IRP-3 and IRP-12. The remediation sites are located in unoccupied industrial areas of the base that were formerly used for chemical and hazardous materials storage, painting, and paint stripping operations. The sites include buildings and open areas on unvaried, level terrain, and total surface acreage from both sites is less than 6 acres on land this is agriculturally classified as Urban and Built-up Land.

The base is located within the South Coast Air Basin, which is designated as a nonattainment area for ozone, suspended particulate matter, and carbon monoxide. Due to the industrial nature of the former activities on the based, the project area is highly disturbed and does not provide suitable habitat for plans or wildlife other than those species tolerate of disturbed, urban environments. The area is underlain by approximately 1,400 feet of unconsolidated to semi-consolidated lagoon and shallow marine sediments with shallow water-bearing zones hydraulically separated from the deeper regional aquifer. While the

base does lie within a coastal area of southern California that is know to be seismically active, it is not located within any Alquist-Priolo Earthquake Fault Zones and no active or potentially active fault is known to exist at the ground surface in, or immediately adjacent to, the project site. Compressible or expansive soil may be encountered at the base on a site-specific basis due to variations in near-surface sediments. While potentially fossil-bearing formations underlie the base, significant fossil occurrences have not yet been identified at the project site and mineral resources are not known to occur in the project area In addition, archaeological sites or human remains are not known to occur at the sites, but a historic district has been identified and two "lighter-than-air ship" (blimp) hangars are included on the National Register of Historic Places.

The area surrounding MCAS Tustin is urban, suburban, and industrial in nature and the nearest school is approximately one-half mile away from the project sites. Major sources of noise in the area are motor vehicles and the railroad. Several highways are located within a mile of MCAS Tustin and two gates provide local access to the base. The three cities surrounding the base all restrict construction activities to Monday through Saturday, roughly during normal business hours. Normal public services and utilities functions are available and are provided either through county, city, or private companies. No large water bodies are located on site and storm water is managed by storm drains connected to large capacity drainage channels located adjacent to the base.

Analysis of Potential Impacts:

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient migration of VOC contamination.

The short-term construction and excavation activities will have a less than significant effect on the environment because the project includes controls for any possible impacts from emissions, dust, noise, traffic, waste management, and treated water discharge. Impacts to wildlife are insignificant because the site is already a disturbed, urban industrialized site without suitable habitate for protected habitat and no rare or endangered plants or animals have been identified at the site. No mineral resources exist at the site and agricultural resources will be significantly impacted. Paleontological or archeological resources are also not expected at the site, but if found, they will be assessed and appropriately managed. No significant geological or hydrological hazards are expected from the project since all activities will have controls in place to protect human health and safety in the event of seismic activity, earth movement, or extreme weather, and all treated water discharges will be done according to federal, state, or locally applicable requirements or the DON will ensure that the discharge of treated groundwater complies with the ARARs as provided by Section 121 of CERCLA and the NCP, including the MCLS, beneficial uses and water quality objectives of the Santa Ana RWQCB.

Long-term groundwater extraction and treatment activities will not have a significant impact on the environment because extraction and treatment volumes are very low (an approximate discharge rate of 24 gpm for 10 years, dropping to 8 gpm for years 10 through 30) and will not impact potable water resources or wells. Institutional controls on groundwater use in the area will also be implemented to protect human health and safety and ensure that VOC-contaminated groundwater is not used prior to achievement of groundwater cleanup goals.

Describe to what extent the project would:

a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

As noted above, the proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient migration of VOC contamination. Project activities and controls will ensure that the quality of the environment is not further degraded. Plants and wildlife habitat or range will not be substantially reduced because the site habitat is already fully disturbed and supports only those plan and animal species tolerant of disturbed urban conditions No protected plan or wildlife species havfe been identified at the site. No fossils or archeological areas of significance have been identified at the project site and impacts to recent historic sites or buildings will be controlled in consultation with the State Historic Preservation Office.

b. Have impacts that are individually limited but cumulatively considerable. As used in the subsection, "cumulatively considerable".

["Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects]

No other projects are being considered in the project vicinity within the same time frame and past remediation projects at MCAS Tustin have not had any significant adverse impacts on the environment. Since all past and proposed remediation projects at MCAS Tustin have been deemed to have less than significant impacts on the environment and no cumulative impacts, cumulatively considerate impacts from environmental remediation projects on MCAS Tustin are not expected.

c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

The project site is currently unoccupied and the closed residential area is approximately one half mile away. The onsite management of hazardous wastes, materials, or emissions will not impact existing or proposed schools or residences. In addition, the project is expected to have a less than significant impact on area traffic because about 10 trucks a day will use the truck route during contaminated soil transport and 11 trucks a day will use the truck route during imported fill transport. The truck route is an established truck route currently used by developers that avoids sensitive areas such as schools and residential areas Project activities will not create a significant hazard to the public due to routing transport, use, or disposal of hazardous materials because the project will use, treat and manage hazardous material and hazardous waste in accordance with all applicable waste management requirements as well as worker safety requirements.

The project will utilize and institute hazardous materials and hazardous waste spill response plans and preventative measures, such as secondary containment, to control any upsets and accidents involving hazardous materials. Given the nature of the project, types of contaminants, and project controls to be enacted onsite, no significant hazard to the public is expected from project activities.

Project controls will ensure that the short-term excavation and construction activities will have no significant direct or indirect adverse effects on humans or the environment. In addition, the long-term project groundwater extraction and treatment activities will not have direct or indirect adverse effects on humans or the environment because the activities will remove contamination, not add to it, and institutional controls will be used to ensure that VOC-contaminated groundwater is not used before groundwater cleanup goals are achieved.

References:

BNI, 2002
Tustin, et al, 1999

Findings of Significance

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

V. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Revised Initial Study:

- ■ I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared

- ☐ I find that although the proposed project COULD HAVE a significant effect on the environment, mitigation measures have been added to the project which would reduce these effects to less than significant levels. A NEGATIVE DECLARATION will be prepared

- ☐ I find that the proposed project COULD HAVE a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared

DTSC Project Manager Signature	Title	Telephone #	Date
	Hazardous Substances Scientist	(714) 484-5418	3/11/04

DTSC Branch/ Unit Chief Signature	Title	Telephone #	Date
	Chief	(714) 484-5456	3/11/04

ATTACHMENT A

REVISED INITIAL STUDY
REFERENCE LIST
FOR
OPERABLE UNIT 1B
INSTALLATION RESTORATION PROGRAM (IRP) SITE 3 PAINT STRIPPER DISPOSAL AREA
AND IRP SITE 12 DRUM STORAGE AREA No.2
MARINE CORPS AIR STATION TUSTIN
PROPOSED PLAN/DRAFT REMEDIAL ACTION PLAN

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1. BNI (Bechtel National, Inc.), 1997a. Draft Final Remedial Investigation Report for Operable Units 1 and 2, Marine Corps Air Facility Tustin, California Prepared for Southwest Division Naval Facilities Engineering Command. November.

2. BNI (Bechtel National, Inc.), 1997b. Draft Final RCRA Facility Assessment Report Marine Corps Air Station Tustin, California Prepared for Southwest Division Naval Facilities Engineering Command. April.

3. BNI (Bechtel National, Inc.), 2002. *Final Feasibility Study Report, Operable Unit 1B Marine Corps Air Station, Tustin, California* Prepared for Southwest Division Naval Facilities Engineering Command. January.

4. CARB (California Air Resources Board), 2001. "2000 State Area Designation Maps of California." Updated February 15, 2001. http://www.arb.ca.gov/desig/adm/adm.htm. (May 14, 2001).

5. CDFG (California Department of Fish and Game), 2002. Natural Diversity Database, Natural Heritage Division.

6. DTSC (Department of Toxic Substances Control), 2001. *Workbook for Conducting Initial Studies under the California Environmental Quality Act (CEQA)*.

7. EPA (United States Environmental Protection Agency), 2000. Region 9 Preliminary Remediation Goals (PRGs) Table, 2000 Update. November.

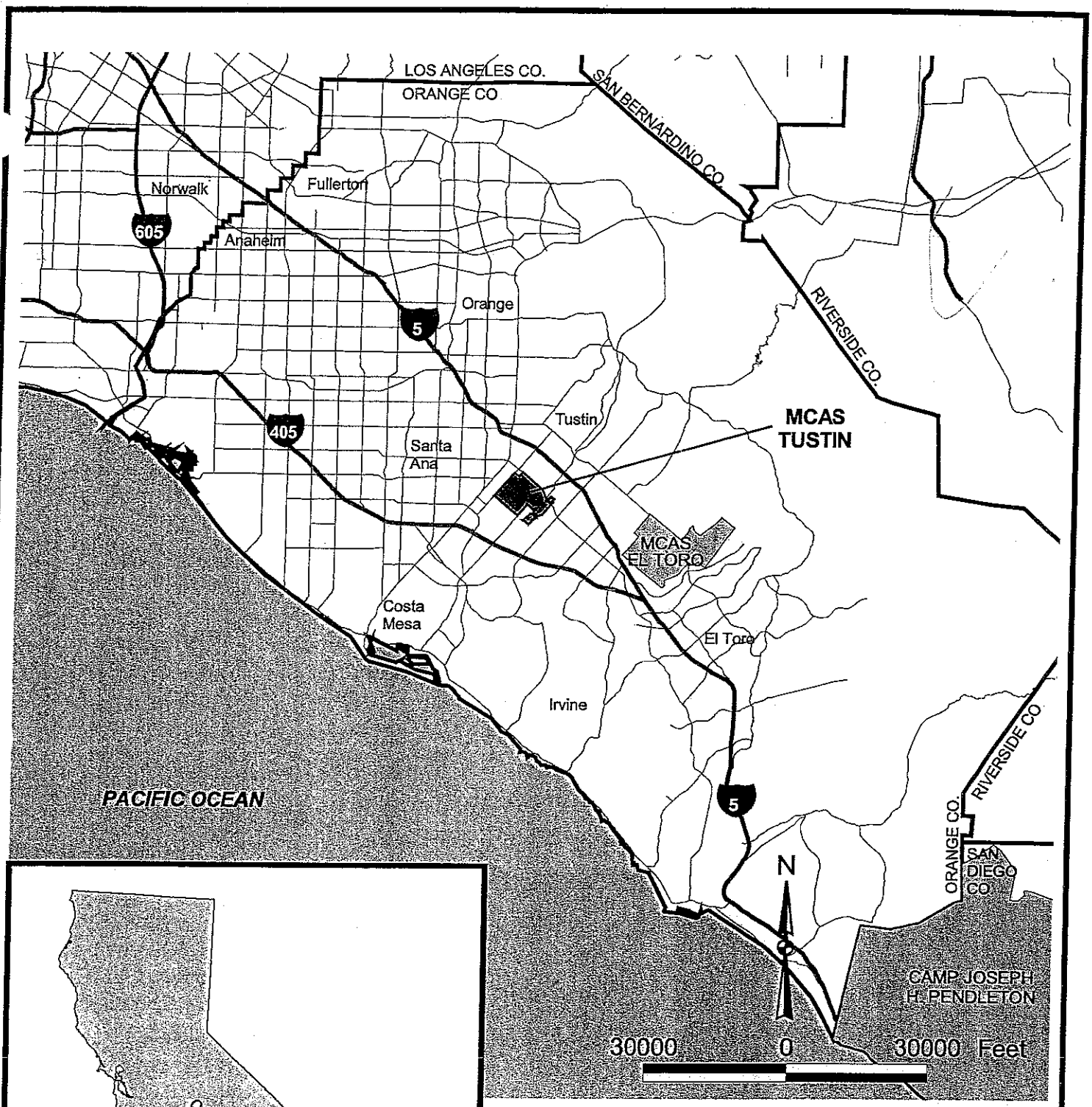
8. Tustin, et al. (City of Tustin and United States Department of the Navy), 1999. *Final Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of MCAS Tustin, Tustin and Irvine, California*. December.

9. SCAQMD (South Coast Air Quality Management District), 1993. *CEQA Air Quality Handbook* (updated November 1993).

ATTACHMENT B

MCAS TUSTIN LOCATION MAP

From *Final Feasibility Study Report, Operable Unit 1B Marine Corps Air Station, Tustin, California*. Prepared by Bechtel National, Inc for Southwest Division Naval Facilities Engineering Command. January, 2002.



Feasibility Study Report

Figure 1-1

MCAS Tustin Location Map

Marine Corps Air Station, Tustin, California

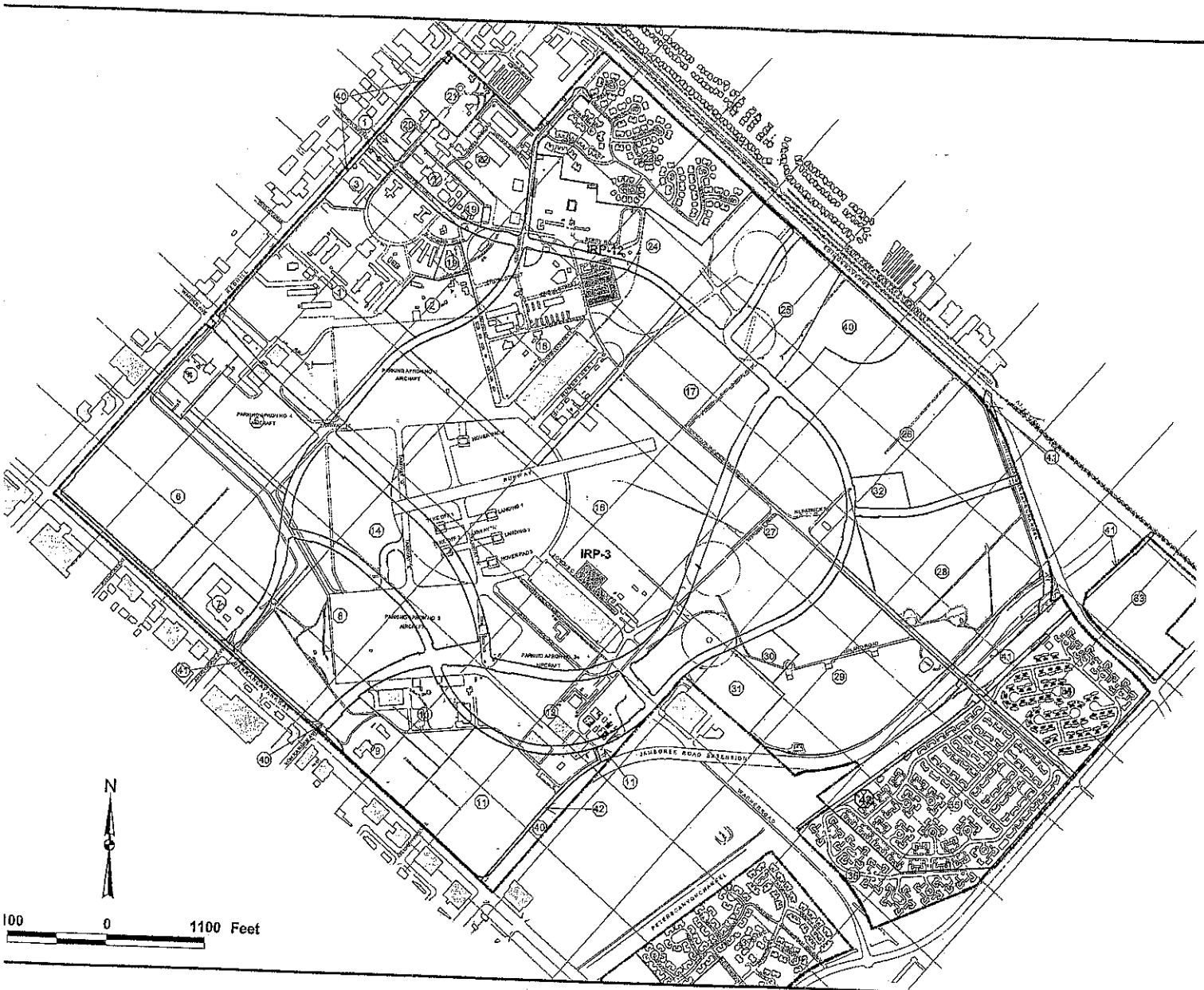
Bechtel National, Inc.
CLEAN II Program

Date: 10/26/00
File No.: 141R5974
Job No.: 22214-141
Rev No.: A

ATTACHMENT C

IRP-3 and IRP-12 Location Map

From *Final Feasibility Study Report, Operable Unit 1B Marine Corps Air Station, Tustin, California*.
Prepared by Bechtel National, Inc for Southwest Division Naval Facilities Engineering Command.
January, 2002



LEGEND

- ① PARCEL NUMBER
- GOVERNMENT PROPERTY LINE
- EXISTING ROAD OR PAVED AREA
- DRAINAGE DITCH
- EXISTING BUILDNG OR STRUCTURE
- RAILROAD
- IRP-3 PAINT STRIPPER DISPOSAL AREA
- IRP-12 DRUM STORAGE AREA NO. 2

SOURCE:

BASE MAP BASED ON AERIAL SURVEY CONDUCTED BY AIRBORNE SYSTEMS, INC. ON OCTOBER 21, 1990. REVISED BY BECHTEL IN NOVEMBER 1997 TO UPDATE BASE MAP.

Feasibility Study Report

Figure 1-18

Location of IRP-3 and IRP-12

Marine Corps Air Station, Tustin, California

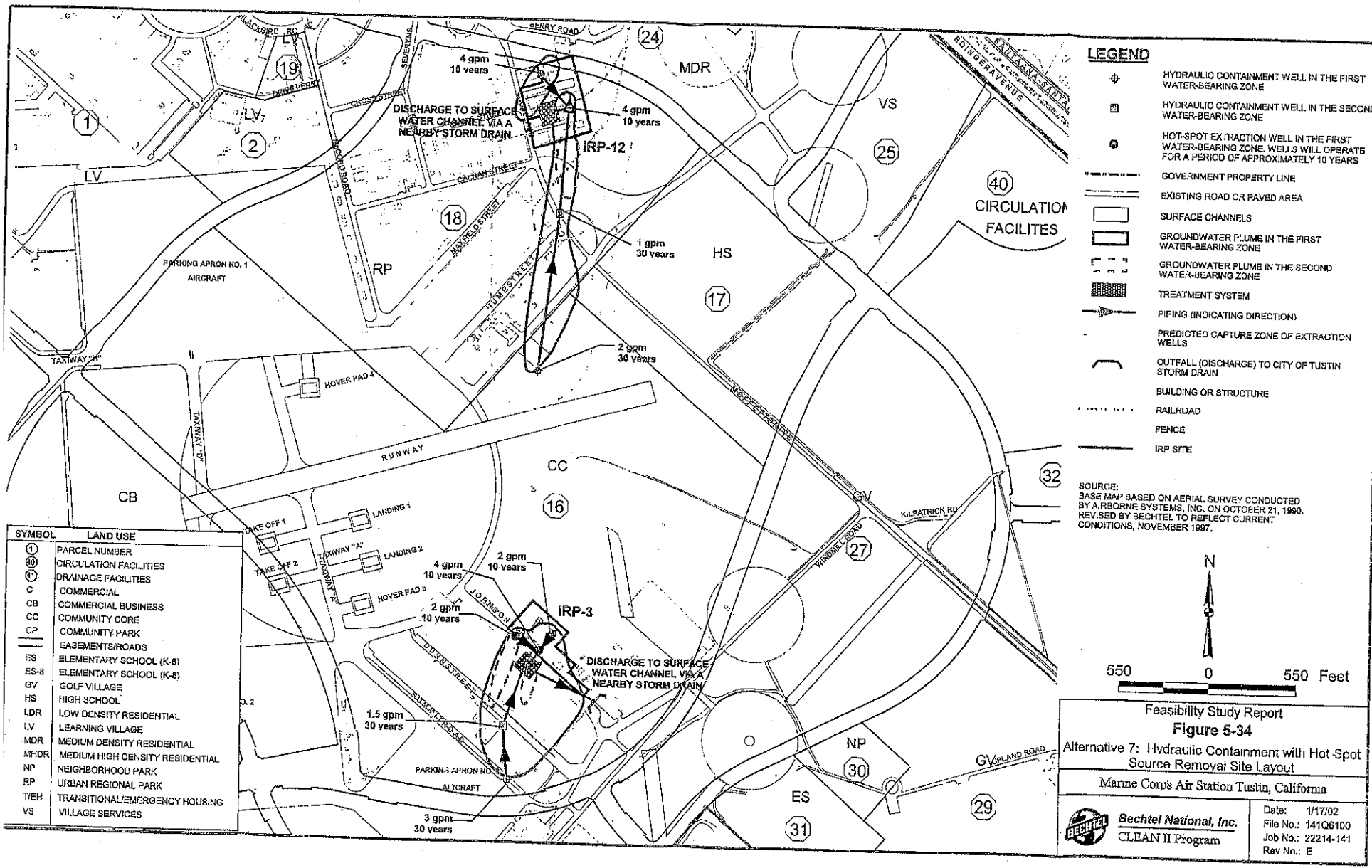
Bechtel National, Inc.
CLEAN II Program

Date: 12/19/00
File No.: 141L6018
Job No.: 22214-141
Rev No.: B

ATTACHMENT D

Alternative 7 Hydraulic Containment with Hot-spot Source Removal Site Layout

From *Final Feasibility Study Report, Operable Unit 1B Marine Corps Air Station, Tustin, California*. Prepared by Bechtel National, Inc for Southwest Division Naval Facilities Engineering Command. January, 2002.



Feasibility Study Report
Figure 5-34
Alternative 7: Hydraulic Containment with Hot-Spot Source Removal Site Layout
Marine Corps Air Station Tustin, California

Bechtel National, Inc.
CLEAN II Program

Date: 1/17/02
File No.: 141Q6100
Job No.: 22214-141
Rev No.: E

ATTACHMENT D

APPENDIX A
PROJECT AIR POLLUTANT EMISSION CALCULATIONS
OU1B IRP Sites 3 and 12

Estimated emissions for the proposed soil remediation project were calculated from the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook (1993). The proposed action consists of excavation of approximately 3,000 cubic yards of contaminated soil from five areas (covering approximately 0.4acres) of hot spot source soils. Following excavation, the contaminated soil will be placed directly on trucks and transported to a class 1 off site facility for disposal (Kettleman City Hazardous Waste Disposal Facility)

The followings data and assumptions were used in performing Phase I estimated emission calculations:

•	Project duration	30 days
•	Maximum truck loads of material transported each day	10 truck loads
•	Total disturbed area	0.4 acre
•	Round trip distance in SCAQMD area to export contaminated soil	200 miles
	Average speed off site	45 mph
•	Construction equipment used	
	1 Backhoe	8 hrs daily
	1 Loader	8 hrs daily
	1 Water truck	4 hrs daily
•	Maximum amount of material handled each day	225 tons
•	Reduction in PM10 emission due to watering	50%
•	Average daily wind speeds (estimated)	11 miles per hr
•	8 Passenger cars per day, 50 miles roundtrip	400 miles daily
•	10 Trucks per day, 200 miles roundtrip in SCAQMD area	2,000 miles/day

---

Table A-1 in this appendix a presents the results of the estimated calculations. The estimated emissions presented below are based on standard equipment and mitigation measures. As shown in Table A-1, all project pollutant emissions estimated during excavation and soil exporting phases will be below the threshold concentrations. Under such conditions, therefore, the project will not have significant air quality impacts during excavation and soil exporting activities.

Delivery Trucks
Scenario Year 2004-Model Years 1965 to 2004
Emission Factors from ARB website EMFAC 2002

Delivery Trucks Emissions Total (lbs/miles)					
	CO	ROC	NOX	SOX	PM10
Delivery Trucks	0.02309	0.003148	0.029607	0.000243	0.000961

Delivery Trucks Total Emissions (lbs/day)					
	CO	ROC	NOX	SOX	PM10
Total Delivery Trucks Emissions/day	46.18	6.296	59.214	0.486	1.922

Soil disturbance (PM10)
(Table A9-9 (SCAQMD,1993))

E=26.4 lbs/day/acre
0.4 acre disturbed over 20 days
Therefore 0.4 acre/20 days
Therefore E=26.4 x 0.4/20 = 0.528 lbs/day

Soil Handling (PM10)
(Table A9-9G
(SCAQMD,1993))

$E=[0.00112\{[G/5]1.3\}/\{[H/2]1.4\}] \times (I/J)$

Where
E= Emission PM10
G=Mean wind speed (Average Daily) = 11 miles/hr
H=Moisture Content of Surface Material = 0.10
I=Maximum pounds of Soil Handled Each Day=4500000
J=Conversion of Pounds to tons
2000

Therefore

$E=0.00112 \times (2.79/0.0150) \times 225$
$= 46.872$ Pounds lbs/day

APPENDIX A
PROJECT AIR POLLUTANT EMISSION CALCULATIONS
OU1B IRP Sites 3 and 12

Estimated emissions for the proposed soil remediation project were calculated from the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook (1993) The proposed action consists of excavation of approximately 3,000 cubic yards of contaminated soil from five areas (covering approximately 0.4acres) of hot spot source soils. Following excavation, the contaminated soil will be placed directly on trucks and transported to a class 1 off site facility for disposal (Kettleman City Hazardous Waste Disposal Facility)

The followings data and assumptions were used in performing Phase I estimated emission calculations:

•	Project duration	30 days
•	Maximum truck loads of material transported each day	10 truck loads
•	Total disturbed area	0.4 acre
•	Round trip distance in SCAQMD area to export contaminated soil	200 miles
	Average speed off site	45 mph
•	Construction equipment used	
	1 Backhoe	8 hrs daily
	1 Loader	8 hrs daily
	1 Water truck	4 hrs daily
•	Maximum amount of material handled each day	225 tons
•	Reduction in PM10 emission due to watering	50%
•	Average daily wind speeds (estimated)	11 miles per hr
•	8 Passenger cars per day, 50 miles roundtrip	400 miles daily
•	10 Trucks per day, 200 miles roundtrip in SCAQMD area	2,000 miles/day

---

Table A-1 in this appendix a presents the results of the estimated calculations. The estimated emissions presented below are based on standard equipment and mitigation measures. As shown in Table A-1, all project pollutant emissions estimated during excavation and soil exporting phases will be below the threshold concentrations. Under such conditions, therefore, the project will not have significant air quality impacts during excavation and soil exporting activities

Table A-1
Summary of Emission Estimation

Source	Pollutants (lbs/day)				
	CO	**ROC**	**NOX**	**SOX**	**PM10**
Trucks	46.18	6.296	59.214	0 486	1.922
Construction equipment	42 539	4.5884	32.88	2.752	3.0852
Soil disturbance	N/A	N/A	N/A	N/A	0.528
Soil handling	N/A	N/A	N/A	N/A	46.872
Soil Pushing	N/A	N/A	N/A	N/A	4 09
Total Emissions	**88.719**	**10.8844**	**92.094**	**3.238**	**56.4972**
Significant Thresholds	550.00	75	100	150	150

Construction Equipment
(Table A9-8-A (SCAQMD,
1993)

Emission Factors Construction Equipment

	Emissions (lbs/hr)				
	CO	ROC	NOX	SOX	PM10
1 Backhoe	3.58	0.18	1.27	0.09	0.14
1 Loader	0 57	0 23	1.90	0.18	0.17
Miscellaneous	0.675	0.15	1.7	0.143	0.14
Passenger 1 Car (Lbs/Mile)	0.016559	0.001771	0.0018	0.000010	0.000113

Construction Equipment Emissions (lbs/day)					
	CO	ROC	NOX	SOX	PM10
1 Backhoe	28.64	1 44	10.16	0.72	1.12
1 Loader	4.576	1 84	15.2	1.456	1 36
Miscellaneous	2.7	0.6	6.8	0.572	0 56
8 Passenger Cars	6.6236	0.7084	0.72	0.004	0.0452
Total Construction Equipment Emission/day	**42.539**	**4.5884**	**32.88**	**2.752**	**3.0852**

Miscellaneous emission
factors were used after
consulting with SCAQMD staff
for Watering operations

Delivery Trucks
Scenario Year 2004-Model Years 1965 to 2004
Emission Factors from ARB website EMFAC 2002

Delivery Trucks Emissions Total (lbs/miles)					
	CO	ROC	NOX	SOX	PM10
Delivery Trucks	0.02309	0.003148	0.029607	0.000243	0.000961

Delivery Trucks Total Emissions (lbs/day)					
	CO	ROC	NOX	SOX	PM10
Total Delivery Trucks Emissions/day	46.18	6.296	59.214	0.486	1.922

Soil disturbance (PM10)
(Table A9-9 (SCAQMD,1993))

E=26.4 lbs/day/acre
0.4 acre disturbed over 20 days
Therefore 0.4 acre/20 days
Therefore E=26.4 x 0.4/20 = 0.528 lbs/day

Soil Handling (PM10)
(Table A9-9G
(SCAQMD,1993))

E=[0.00112{[G/5]1.3}/{[H/2]1.4}] x(I /J)

Where
E= Emission PM10
G=Mean wind speed (Average Daily) = 11 miles/hr
H=Moisture Content of Surface Material = 0 10
I=Maximum pounds of Soil Handled Each Day=4500000
J=Conversion of Pounds to tons
2000

Therefore

E=0.00112 x (2.79/0.0150)x 225
= 46.872 Pounds lbs/day

Soil Pushing (PM10)
(Table A9-9F
(SCAQMD,1993))

From the Equation on Page A9-100

Where
E= Emission PM10
G=Silt Content
H=Moisture Content of Surface Material = 0.10
I=2.2046
J=Hours of operation= 8

Therefore

E=.45 x (0.02054/0.0398)x 2.2046x8
= 4 09 Pounds lbs/day

APPENDIX B

Marine Corps Air Station IRP Sites 3 and 12 Operable Unit (OU-1B)
Comments Received During the Public Comment Period

Comments by: Melinda Bowman, Planning & Development Services Department, County of Orange, Letter Dated April 16, 2002

1. In general, the County is concerned about discharges into Peters Canyon Wash and any associated impacts on water quality in the Newport Bay/San Diego Creek watershed. Comments specific to this concern are attached (see comments from Chris Crompton, County of Orange)

Response: The selected remedy, Alternative 7 (Hydraulic Containment with Hot Spot Removal), is specifically designed and intended to contain the VOC plumes within their current boundaries at IRP-3 and IRP-12, and to prevent further contaminant migration toward Peters Canyon Channel. Once the groundwater is extracted and cleaned up, it would be discharged from the treatment systems into surface waters in Peters Canyon Channel that eventually reaches San Diego Creek and Newport Bay. The Navy will use discharge standards applicable to the surface water body that the water is being discharged into to make sure that the water in San Diego Creek and Newport Bay is not degraded.

2. The County is also concerned about the potential impact of the Preferred Remedy (Alternative 7) for IRP-12 on the future regional park (Parcel 18). Specifically, the described soil hot spot excavation and thermal treatment may affect the planned reuse of buildings to be utilized for archeological/paleontological storage (Building Numbers 20B, 90, and 533 in Parcel 18). Of further concern is the impact of hot spot extraction and containment wells and the groundwater treatment facilities that may be located on the balance of the regional park parcel.
If the Department of the Navy plans to undertake any excavations or locate any wells or treatment facilities on Parcel 18, coordination with the County on siting these facilities away from park activity centers will be important to help ensure the economic viability of the hangar and functionality of other associated park uses. To this end, the County requests to be consulted during the remedial design phase as the detailed designs are developed for the IRP-12 portion of OU 1B.

Response: The selected alternative would extract contaminated groundwater from the shallow aquifer, treat the groundwater, and discharge the clean treated groundwater to an on-site storm drain. The cleanup levels for the treated groundwater will be based on requirements of the California Water Code, the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), and will comply with substantive requirements of the general NPDES permit issued by the Regional Water Quality Control Board.

4 The Newport Bay/San Diego Creek watershed has Total Maximum Daily Loads (TMDLs) for sediment, nutrients, and fecal coliform. The toxics TMDL is anticipated by late April 2002. Will the discharge from the groundwater into Peters Canyon Wash contain any chemical constituents which will exacerbate TMDL conditions?

Response: Regional Water Quality Control Board staff are currently revising the waste discharge permit for Tustin MCAS and are including discharge limitations for selenium and total nitrogen.

Comments by: Divid G. Woelfel Planning Section, Santa Ana Regional Water Quality Control Board Santa Ana Region, Letter Dated May 9, 2002

1. Staff of the Regional Water Quality Control Board, Santa Ana Region (RWQCB), has reviewed the Notice of Completion for the proposed project. The proposed project would remediate volatile organic contaminated soil and groundwater from the former Marine Corps Air Station located in Tustin, California. Contaminated soil would be excavated, thermally treated on site and reused to backfill the excavations Extracted contaminated groundwater would be treated using a granular activated carbon treatment system. The treated water would be discharged to a storm drain that eventually leads to Peters Canyon Channel at a rate of 24 gpm for the first 10 years.

The discharge of treated groundwater to Peters Canyon Channel has the potential to impact water quality. Therefore, to lessen impacts to water quality standards and protect beneficial uses, the following principals and policies should be considered for the project:

As a result of the 303 (d) listing of San Diego Creek and the Newport Bay, proposed projects in the drainage area will be subjected to controls (specifically Total Maximum Daily Loads of TMDLs) pursuant to state and federal regulations. TMDLs for sedimentation, nutrients, and pathogens have been developed and implemented for the Newport Bay Watershed. TMDLs for Toxic Substance Contamination, including diazinon, chlorpyrifos, selenium, heavy metals, pesticides, and priority organics are being developed for the Watershed by this Regional Board and the United States Environmental Protection Agency. Therefore, the discharge of the treated groundwater from this project must not further impact the water quality of the Newport Bay Watershed and must meet the requirements set forth in the TMDLs.

Response: Regional Water Quality Control Board staff are currently revising the waste discharge permit for Tustin MCAS and are including discharge limitations for selenium and total nitrogen.

Canyon Channel. Please note that all work within the State right-of-way must conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control, including production of a Water Pollution Control Program (WPCP) or Storm Water Pollution Prevention Plan (SWPPP) as required. Any runoff or discharge draining into Calyrns right-of-way (this includes storm drains) from construction operations or from the resulting project cannot be approved by District 12 Environmental Planning Measures must be incorporated to contain all vehicle loads and avoid any trucking of materials that may or blow onto Caltrans roadways or facilities. (See attachment: Water Pollution Control Provisions.)

Response: None of the work will be performed within the State right-of-way.

2. In the Special Initial Study, Project Information, Agencies Having Jurisdiction Over the Project/Types of Permits Required, several agencies other than Caltrans are identified. Please note that if any project work (e.g. street widening, emergency access improvements, sewer connections, sound walls, storm drain construction, street connections, etc.) occurs in the vicinity of the Caltrans right-of-way, an encroachment permit would be required and environmental concerns would need to be adequately addressed. Please coordinate with Caltrans to meet requirements for any work within or near Caltrans right-of-way. (See attachment: Environmental Review Requirements for Encroachment Permits.)

Response: Comment noted.

Comments by: Mike A. Nazemi, Planning Manager, Planning, Rule Development & Area Sources, South Coast Air quality Management District, Letter Dated April 26, 2002

1. Notice of Intent to Adopt Negative Declaration for the Proposed Cleanup of Groundwater and Soil at IRP Sites 3 and 12 at the Marine Corps Air station Installation, Tustin- Department of Toxic substances Control.

- In Section 3. Air quality on page 15 paragraph two, the lead agency based its conclusion that air quality impacts would be insignificant by using the screening tables in Chapter 6 of the AQMD's CEQA Air Quality Handbook (Handbook). For future projects, it is recommended that the lead agency avoid using the screening tables Handbook Chapter 6 for the following reasons. First, the tables were derived using an obsolete version of the CARB's mobile source emission factors inventory (EMFAC7E). Further, the trip generation characteristics of the land uses identified in the Chapter 6 screening tables were based on the fifth edition of the ITE Trip Generation Manual. The Most current version of this manual is the sixth edition.

  As a result, it is recommended that the lead agency utilize the current CARB UEBEMIS 2001 emission model or follow the calculation methodologies in Chapter 9 and the Appendix to Chapter 9 in the Handbook to calculate

construction and operational air quality impacts from future projects to ensure that the air quality impacts are not significant.

Response: Comment noted. Thank you very much for bring this change to our attention. In the Revised initial study air emissions are calculated using the method suggested by you.